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Forest Health in the Blue Mountains

Public Forums: April-June, 1991

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G. Lynn Starr and Thomas M. Quigley, editors

EDITORS

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ABSTRACT

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Summary of a series of public meetings on the subject of forest health in the Blue Mountains of northeastern Oregon and southeastern Washington. Information on the state of forest health was given by Forest Service and university scientists and a group of panelists. Panels consisted of people representing forest managers, environmental advocates, Native Americans, fish and wildlife professionals, timber management professionals, county government, and timber industry. Scientists and panelists responded to questions and comments from the audience. The meetings were sponsored by the Blue Mountains Natural Resources Institute.

Keywords: Forest health, Blue Mountains.

Contents

INTRODUCTION

The Blue Mountains Natural Resources Institute sponsored a series of public forums on forest health in the Blue Mountains at the request of the forest supervisors of the Malheur, Wallowa-Whitman,and Umatilla National Forests. The purpose was to share with the public information on the state of health of the forests, and to gain an understanding of the public ideas on some possible actions. The forums took place in:

La Grande	April 22, 1991	Burns	April 30, 1991
Enterprise	April 23, 1991	Heppner	May 1, 1991
Baker City	April 24, 1991	Pendleton	May 6, 1991
John Day	April 29, 1991	Walla Walla	June 4, 1991

The format of the forums provided for presentations by Forest Service and university scientists and each panelist, questions and comments from the audience, and response by various panelists. The panels included representatives of timber industry, Forest Service managers, fish and wildlife, Oregon Department of Forestry, environmental advocates, Native Americans, and county governments. The moderator was Sally Wiens of La Grande. The following is a summary of information from all the meetings beginning with presentations by scientists and panelists.

Blue Mountains Forest Health: Status and Strategies

Charlie Johnson, Ecologist

The Blue Mountain Forest Health Project was initiated at the request of John Butruille, Regional Forester, Pacific Northwest Region. Although the project had an impetus generated by the outbreak of insects and diseases in our forested stands, the team embodied the principles of the New Perspectives initiative in its assessment of health on all lands administered by the Malheur, Umatilla, and Wallowa-Whitman National Forests.

The purpose of this effort was to provide a framework to build some strategies for restoring the health of the natural resources in northeastern Oregon and southeastern Washington. A large amount of that effort will need to take place on the federal landscape of the National Forests of the two States. In talking about the national forests, we are talking about uses which are multiple in nature and a multitude of values and commodities that are provided on national forest lands. Some people feel certain values and commodities are in jeopardy. The endemic insect population has become epidemic. That is to say that insects are a part of the normal, natural life of the forest ecosystem, but they have gotten out of balance.

Fire is one of the principal factors, but not the only factor, that has historically played a role in the vegetative development in this part of the intermountain northwest. Although these fires represent large events in our recent past, we need to remember that before we were stewards of these lands, fire was part of nature's scheme. They were natural, they provided for vigorous trees in forest stands, and they helped keep the insects in check. Stagnated stands did not regularly exist; fire helped thin thickets and promote fire-resistant species.

One of the cornerstones of management change will be the recognition of fire for its value in modifying stand composition and rejuvenating the forest as well as a tendency to sanitize beneath-forest stands. Fire provides a natural seedbed for natural regeneration of ponderosa pine in stands when pine is climax or a pioneer.

Healthy forests are created and maintained by periodic fire. If fire is allowed to occur more frequently than we have permitted (say, every 10-15 years in pine-dominated forests and up to 50-100 years in fir-dominated stands), then we might see more of the landscape dominated by pine in the Blues. When fire burns more regularly it burns cooler, eradicating tree seedlings and creating open park-like stands with pinegrass, elk sedge, and forbs dominating beneath.

When fire does not perform a periodic modifying role, stands will change in time to an abundance of Douglas-fir, grand fir or white fir, and a high fuel build-up from some of the older material. This stand provides opportunities for fire to leave the ground and leap into the crowns causing greater stand mortality.

Stand replacement fires are also part of periodic fire activity in true fir-dominated stands of the three National Forests. One example is Joseph Creek Canyon, just north of the viewpoint on Highway 3. Forest and grassland communities dominate from Joseph Creek to the rim in stringer fashion. Douglas-fir/ninebark plant communities dominate. They have been formed into even-aged stands by past stand-replacement fire. Another kind of stand replacement fire is exemplified by the Summit Burn of Hells Canyon NRA which occurred in 1989. The fire burned in grand fir, subalpine fir, and lodgepole pine. This fire demonstrated the haphazard, unpredictable pattern which provides for unburned forest in the wake of most wildfires.

Stand replacement fires provide a healthy forest containing various successional stages. Dominating tree canopies are replaced by shrublands or tree compositions that vary from the late seral or old growth forest. These fires provide different structure, different species, and varying age classes. They provide abundant

variation which is especially important to wildlife: willow shrublands in grand fir-dominated forest; western larch and lodgepole pine stands in true fir forests.

Fire and silviculture together can enhance the variation across the landscape by selectively promoting and enhancing certain species, encouraging greater tree vigor and different stand structures as well as varied age classes. A diverse landscape is essentially a more stable landscape because we haven't put all our "eggs in one basket." The premise is that the greater the diversity which can be provided to the landscape, the greater will be the stability of the land as a whole. Scabland, shrubland, forest land, and a variation of different kinds of plant communities occur as a result of natural landforms and varying soil depositions. This is natural diversity. This kind of landscape provides multiple opportunities for wildlife and man as well.

Our management activities can encourage the same kind of patchiness and forms to the landscape. If we keep the same scale as nature, then these activities will help to provide diversity and encourage better overall health. A patch created by a wildfire fits nicely with the overall pattern of the land (i.e., continuous forest mixed with scablands, juniper woodlands, and mahogany shrublands). This could easily be prescribed by management for a burn to encourage early stand pattern development characteristics when they are needed to enhance landscape biodiversity.

Where we get into trouble is when we lose sight of our natural scale and create geometric patterns that certainly become unnatural. Some clearcuts appear to have been designed by an engineer with little regard to how they conform to a natural landscape. Small patch clearcuts, on the other hand, do lend to the biologic needs and do not detrimentally affect biodiversity goals. They can be used by silviculturists for improving stand health within a forest landscape where selective harvest practices emulate the selectivity of a natural underburn.

Fire and silviculture together can promote a diverse landscape mosaic. A mosaic is more desirable than no management and no modification. No modification, and therefore no disturbance, has provided some of the problems we have inherited today since our vegetation thrives on periodic disturbance. It is a matter of extent and degree of severity as to how helpful, or harmful, disturbances are to the overall landscape pattern and to species diversity. An example of combining fire and silviculture is a seed tree treatment which left larch to provide seed, followed by prescribed fire and subsequent planting of spruce. These tree species were promoted by their retention and planting to add to the natural regeneration by grand fir. Feathered edges with the unmodified stand adjacent to the unit were created to help build transition areas to promote species diversity and structural diversity for wildlife.

We encourage the reintroduction of surface fire following stocking level silvicultural treatments. Regeneration can be stimulated for fire resistant species which are promoted when the fire incursion provides a prime seedbed for seedling establishment.

It is just a matter of scale and degree that insects and diseases are considered as either endemic (and helpful in maintaining a healthy forest) or epidemic (where their activity results from imbalance to the natural cycle)--a result of fire removal from the ecosystem.

Certainly stand replacement fires are not bad. Fire has a role to play, and left to provide its natural role, desirable biodiversity enhancement occurs when patches are created that will have a different age, structure, and composition of the vegetation from that of the adjacent forest.

Approximately 30 percent of the total national forest area on the three National Forests is unforested; and approximately 45 percent of the lands we administer are unsuitable for timber harvest. Therefore, in speaking about the health of the forests, we should speak of the whole--not just the forested portion where insects are causing the visible excitement. Rangelands are very important both for domestic animals and wildlife species.

A lot of potential has been lost on our open rangelands primarily from sheep overgrazing at the turn of the century and the inability of those sites to rebound due to the total lack of perennial bunchgrass seed source. The bunchgrasses have often been replaced by gumweed, cluster tarweed, or other undesirable species.

When the perennial bunchgrasses contribute a significant part of the community composition, regaining the health of the grasslands is easy and less costly; it can be accomplished by deferment, change of season of use, or kind of livestock employed. The improvement of grasslands where perennial grasses have been lost is much more costly. The improvement of overall species and landscape diversity of the forests requires that we include nonforested lands in this assessment.

Wetlands and riparian areas are part of the rangelands and the watersheds which we administer. The public has justifiably criticized the condition of these important segments of the forest lands. These are small in relative acreage, have a high potential for multiple use, and provide many resource values.

To make many of the changes necessary to improve the health of the forests, we feel the [Forest Service] organization will need to effect a change in attitude and philosophy to accommodate the ecosystem approach to management. This would require training, reorganization of skills, and monitoring of results from project work designed to initiate successional changes for forest health improvement. The management emphasis must change from stand management to landscape biodiversity and ecosystem management.

The ecosystem functions and processes are key to the success of improving forest health. We need to look at project work as part of cyclical management designed to provide a certain successional stage, or sequence of stages, in the overall "patchwork" of landscape. Projects which are created for short-term needs, and don't provide a linkage to the long-term ecosystem needs, must be curtailed. Everything we do needs to be part of a planned approach to ecosystem requirements. This means that the culmination of our management efforts will not cycle back during our lifetimes. This will be a long-term process requiring intricate planning.

Key recommendations of the forest health evaluation project address the needs to understand more about biodiversity, the role of fire, and long-term site productivity as these influence forest health. Research is needed to provide us with more of the answers--to allow us to fit all the pieces of the puzzle. A center for dissemination of information about forest health should be established by the Blue Mountains Natural Resources Institute.

We will need to increase coordination efforts between adjacent landowners and the Federal Government to help promote some of the same management attitudes and practices which will improve the total landscapes of our natural resource-bearing lands in northeastern Oregon and southeastern Washington. Recognizing that the Umatilla, Wallowa-Whitman, and Malheur Forest Plans were initiated a decade ago, we need to now review those plans to assure that the "Desired Future Conditions" are achievable and valid given the fact that there has been a deterioration in the condition of the Forests.

Recognizing that this landscape is populated by human communities as well as plant and animal communities, we need to determine the social and economic effects of forest health conditions on the communities of the area. Public understanding of the human and naturally caused influences on forest health is also critical to our success in changing emphasis with our management.

To summarize, the kind of landscape needed to help stimulate and start a change in the epidemic of insects and diseases is a managed landscape which provides commodities and values. Managed scenes would be as much a part of the process as would old growth and minimally-modified stands. The landscape we envision is not one of totally salvaged nor totally burned stands, but rather a patchwork which contains vigorous, juvenile trees; old growth stands; shrublands; riparian meadows; and streams all in a proper juxtaposition across the landscape.

This material was presented by Charlie Johnson, ecologist, Wallowa-Whitman National Forest; Craig Schmitt, pathologist, Blue Mt. Pest Management Zone; or Art Tiedemann, ecologist, Forestry and Range Sciences Lab, La Grande.

Forest Health: Science Perspectives

Forestry and Range Sciences Lab
La Grande, OR, April 1991

The following outline represents some of the early thinking of the PNW Research scientists on the Blue Mountains forest health issue. Specific recommendations and studies to address knowledge gaps are still being developed.

1. General Science Observations

- The forest health situation in the Blue Mountains was complex due to limited water, limited nutrients, short growing season, geography, and other elements without the added complexity of drought, epidemic insect levels, and large fires.

- Past management, including the exclusion of fire, has contributed to the current state of the forest health. Achieving healthy forests will take a very long time--100 years or so.

- Insect and disease impacts are more widespread than what historically existed.

- The insect, disease, and fire problems are exacerbated by the current drought situation.

- The need to integrate landscape-level objectives with stand-level objectives is strong.

- Fire, insects, disease, and dead and dying trees are all a part of healthy forests. It is a question of degree and frequency.

2. Insect and Disease

- Short-term

Implement early detection and monitoring systems.

Implement the use of silvicultural techniques, nutrient management technology, environmentally safe pesticides, and pheromones.

Conserve old-growth stands for their gene pool and seed.

- Long-term

Convert high risk fir stands to pine and larch.

Conserve old-growth stands for a mosaic of stand types and biodiversity.

3. Wildlife

- Short-term and long-term

Ecological processes are favoring those species whose best habitat is fir and negatively impacting those species whose best habitat is ponderosa pine.

No species' existence is being threatened by the ecological processes currently at work.

Big-game cover needs to be considered in all proposed treatments that address forest health.

Future management needs to plan for adequate snag and down log retention and recruitment.

The maintenance of habitat diversity is important and should be considered.

4. Economic and Social Considerations

- Short-term

Reducing short-term economic and social disruptions must be weighed against long-term productivity, biological diversity, and ecological processes.

Tradeoff and compromise will be necessary in decisions addressing forest health.

Need to initiate an indepth economic analysis and social assessment.

Need to establish a common scientific understanding of forest health and communicate it widely to management and the public.

Need to discover new markets for products and resources of the Blue Mountains.

- Long-term

The issue of forest health cannot be separated from other national and regional issues.

Need to discover a process that leads to decisions with more ownership, more consensus, and less litigation.

There are institutional barriers to achieving and maintaining forest health that must be adjusted.

5. Fire Ecology

- Short-term

Develop an understanding of the way fires influence nutrient cycling, water and air quality, wildlife cover, soil seed bank loss, and soil fertility.

Need to increase our understanding of the role of fire (planned and unplanned) in the recovery of wildlife habitat, recruitment of animals, creation of vigorous shrublands and young trees, and increased landscape diversity, and communicate that to resource managers and the public. Change the message from one of protectionism to one of use and management.

Examine the use of fire management techniques in achieving and maintaining biodiversity and healthy forests.

-Long-term

- Integrated planning of silvicultural and fire-management activities can serve to improve tree vigor, species composition, and possibly reduce the catastrophic effects of insects, disease, and fire.

6. Biological Diversity

- Short-term

Need to increase our understanding of the role of hardwoods in the forested ecosystems of the Blue Mountains.

Need to increase our understanding of monitoring diversity, especially on long-term plots.

Demonstrate practices that are designed specifically to enhance biological diversity.

- Long-term

Improve biological diversity in healthy forests through landscape level planning and creating patches that emulate the natural sizes and compositions inherent in particular area.

Develop an understanding of the habitat requirements of plant and animal species to conserve genetic, species, and landscape diversity.

7. Rangeland Health

- Short-term and Long-term

Overgrazing in the late 1800's and early 1900's resulted in unhealthy rangelands. Conditions are improving but much remains to be done, particularly in the areas of species composition and soil productivity improvements.

Need to increase our understanding of the role of herbivores in nutrient cycling, vegetation manipulation, and soil productivity.

Provide guidelines that result in practices that begin to improve soil productivity or desired long-term species composition.

8. Riparian and Wetlands

- Short-term

Need to develop and demonstrate strategies that will provide riparian and wetland enhancement. Strategies should include interest groups, users, managers, and scientists.

- Long-term

Develop an understanding of the role of wetlands as part of the total watershed, on-site, and downstream system.

9. Fisheries

- Short-term and Long-term

Riparian/stream ecosystems are linked to hydrologic, soil, energy, and biotic systems. Develop management strategies at the ecosystem-landscape level.

Determine the role that terrestrial uplands play in the biological diversity and productivity of riparian/stream ecosystems.

Conserve and restore stream ecosystems through integrating uplands, riparian zones, and stream habitat by changes in livestock management, manipulating vegetation, and understanding fire as an ecosystem process.

This material was presented by one of the following:

Richard Mason, insect ecologist, Forestry and Range Sciences Lab
Art Tiedemann, ecologist, Forestry and Range Sciences Lab
Greg Filip, forest pathologist, Oregon State University
Craig Schmitt, pathologist, Blue Mt. Pest Management Zone
Tom Quigley, range scientist, Blue Mountains Natural Resources Institute

PANELIST PRESENTATIONS

Panelist comments are grouped by 'interest' they represent. The panels were composed of people representing Forest Service management, timber industry, environmental advocates, native Americans, county government, fish and wildlife, and forestry. In many cases one individual served on several panels. In that case that person's comments are included only once in this summary. Therefore, it could appear that one group or another was given unequal time. In fact, all 'interest' groups were represented on all panels with a few exceptions due to scheduling conflicts.

Most comments that appear here are as submitted in written form by the panelist. Where written comments were not submitted, what appears is from notes taken during the presentation.

Forest Service Management

Kenneth M. Rockwell, silviculturist, La Grande Ranger District
La Grande, April 22, 1991

With its complex and diverse assemblage of plant communities, seral stages, creatures large and small, gentle and rugged terrain, and associated social values, the forests of northeast Oregon offer resource managers some interesting challenges. Succession, diseases, insect epidemics, drought, logging, and wildfires are some of the major components influencing the nature of the forest.

In the late 1970's, the District began a concerted effort to implement processes and procedures to improve the health and vigor of stands in our care. Regeneration of deteriorating stands, stocking control, and favoring the relatively insect- and disease-resistant ponderosa pine and western larch were the primary objectives to restore trees and stand health. Regeneration harvests were prescribed which favored re-establishment of the early seral species, using prescribed fire as both a site preparation and hazard reduction technique. Precommercial thinning was prescribed in overstocked, newly-regenerated stands in order to maintain the trees in a healthy and vigorous condition, better able to withstand insects, diseases, and environmental extremes. Species diversity was maintained or enhanced by favoring under-represented species in the stand, generally pine and larch. Similarly, commercial thinning was initiated in overstocked stands of larger diameter trees. Techniques for benefitting other resources or maintaining site productivity were also prescribed in these managed stands, techniques such as: designating well-spaced skidtrails; subsoiling skidtrails; leaving large and small diameter woody debris on site; retaining snags; providing individual and groups of trees for connectivity, refugia, and for snag and log recruitment; protecting unique or fragile sites; and maintaining riparian buffers.

As the 1980's progressed, we were forced to change our efforts from proactive to reactive as we entered an extended period of defoliation of grand fir and Douglas-fir by the western spruce budworm, which, combined with several successive years of drought, resulted in conditions favorable for epidemic increases in barkbeetle populations. The budworm has caused considerable mortality in the understory, while the barkbeetles are killing the overstory.

Reaction to this epidemic has been two-fold. The first step has been to address the tree mortality which is having immediate effects on a variety of resources. At issue were resources such as timber, big-game habitat, old-growth, visuals, fisheries and watersheds, sensitive/threatened/endangered plant or animal species, range, and recreation. Other issues included economics, cumulative effects, Forest Plan standards and guidelines, short- and long-term effects, hazard fuels, competing and unwanted vegetation, forest health, fragmentation, and biological diversity. We utilized high elevation color infrared photography to help identify areas where the trees had been killed by barkbeetles but were still green. Throughout the epidemic, we have been in close contact with researchers, pathologists, entomologists, and the public, informing them of the situation and soliciting input and participation. We've sponsored several meetings and field trips to discuss different approaches and alternatives with interested parties. The result of this coordination and collaboration has been a multi-resource consensus for salvage, rehabilitation, or no-treatment based on a site-specific analysis of the resources involved in the context of the surrounding landscape. Harvest prescriptions have incorporated state-of-the-art techniques for stocking control and prompt stand regeneration while maintaining site productivity, refugia, connectivity, and long-term biological diversity.

Second has been the learning experience. We have been rudely reminded that the forest is a dynamic ecosystem. Some management is needed to keep trees healthy and to maintain a diverse mix of early through late seral species of trees and other life forms. Otherwise, natural forces will do the management for us, frequently with results which conflict with our overall multiple-resource and biological diversity goals. At the

same time, we recognize that a healthy ecosystem contains some unhealthy parts which may be essential for the existence of certain species in the biota. We must work to maintain a balance through time. Goals and objectives of the various resources often conflict with each other. Similarly, techniques to improve forest health (in terms of tree health) often conflict with some resource objectives. We continue our efforts to be creative in resolving those conflicts. Compromises are inevitable and necessary.

The future. Recognizing the need for a coordinated effort to address the health problems impacting the Forests of the Blue Mountains, a tri-Forest (Wallowa-Whitman, Umatilla, Malheur) multi-resource team was assembled. After months of research, literature review, and collaboration, the team recommended several general strategies as a basis for moving the Forests to a healthier condition. I recommend that the document be read in its entirety. The strategy statements are as follows:

1. Foster public awareness and participation in addressing long-term forest health issues as they relate to both the human and natural environments.

2. Review Forest Plans to insure desired future conditions are appropriate given the present condition and trend of forest health in the Blue Mountains.

3. Utilize fire and silvicultural means to restore and maintain forest health in the Blue Mountains within the framework of the desired future conditions described in the Forest Plans.

4. Improve coordination of Forest Service land management activities between adjacent landowners and other government agencies to insure that forest health concerns are addressed.

5. Promote integrated resource analysis to ensure adequate consideration of forest health needs in terms of biological diversity, long-term productivity, watershed values, insect and disease management, and cumulative effects on a landscape scale.

6. Encourage research for the purposes of meeting information needs and identifying standards and procedures for monitoring forest health in the Blue Mountains.

7. Develop technology and information resources in conjunction with integrated resource management in order to better address long-term restoration and maintenance of forest health.

Jim Golden, Wallowa Valley District Ranger
Enterprise, April 23, 1991

We know that past harvest practices, the exclusion of fire from the natural environment, and the current drought cycle are the principal reasons that we are here today discussing "Forest Health."

Current insect problems have affected timber yields both now and in the future; exacerbated an already complex fire management environment; further degraded some watershed values; affected scenery; changed wildlife habitat; and has challenged our ability to efficiently manage the National Forest.

These changes in the forest have increased public concern for the future economic viability of our local communities, captured the attention of regional media and top management of public land management agencies, and added an additional layer of instability to the decade of the 1990's in Northeast Oregon.

I'd like to contrast some indicators of health in the forest, in our timber stands, and in the basic unit of the forest, the tree.

Health of a tree may be evaluated by such indicators as size and condition of live crown, the increase or maintenance of height and diameter growth, or the consistency of size and color of its leaves or needles.

The health of a stand is a bit more complex, and relates somewhat to the management objectives for that stand. The mix of species (diversity) is an indicator of the ability of a stand to withstand or respond to catastrophic change. Tree mortality may be present, and would not indicate an unhealthy condition if the stand is otherwise meeting growth expectations, and meeting other objectives such as fish and wildlife habitat, soil and watershed protection, and the need to maintain a level of biological diversity within the stand, or across the landscape.

The Health of the Forest Ecosystem is far more complex, and is affected less by the number and distribution of dead trees than is the health of stands. Healthy trees and stands can contribute to the health of the forest, but so can dead trees. A healthy forest is one that's meeting society's needs:

A healthy forest produces cool, clean water in predictable and prolonged runoff.

A healthy forest is one where the ability of the soil to produce sustainable resource outputs in unimpeded. The protection of soils and water resources are our highest priority.

A healthy forest maintains sufficient biological diversity in order to maintain viable populations of all native, and desirable introduced, species of plants and animals.

A healthy forest also provides for other human needs, such as:
sustainable levels of timber production,
range vegetation in good condition,
the protection of our cultural heritage,
a variety of outdoor recreation opportunities,
and an outdoor laboratory for the study and appreciation of the natural processes.

So, you see we can have dead trees and have a healthy forest, and we can have healthy trees but an unhealthy forest!

Through the process of bringing our stands into a more managed condition where it's appropriate, and increasing our use of prescribed fire in the landscape where it's appropriate, while protecting ALL the forest resources, we can choose to have healthy forests!

It took more than 80 years to shape the conditions that contribute to our current pest problem.

It may take just as long to reverse these conditions.

I think that as we deal with the forest insect problem in our commercially valuable stands it is imperative that we improve the overall health of the forest. THANK YOU!

Lynn Roehm, Acting District Ranger, Baker Ranger District
Baker City, April 24, 1991

Forest health has been subject to increasing damage by fires, insects and disease. Epidemic insect infestations and several consecutive years of drought and fires that seem to grow more catastrophic with each passing season have raised concerns.

Evidence of the mountain pine beetle, the Douglas-fir bark beetle and spruce budworm exist throughout the District. Past management practices of selective harvesting and fire exclusions have encouraged many timber stands previously dominated by pine and larch to become stands dominated by true firs and Douglas-fir. This altered successional pattern has resulted in an increase in incidences of forest insects, defoliators, bark beetles, and tree diseases.

Fire exclusion and management practices along with increased fuel loads and drought conditions have resulted in several catastrophic fires over the past four years. Approximately 34,000 acres of 303,000 acres (10%) have burned on the District during this time.

I would now like to share with you the principle strategies developed by the Forest Health Team to address the health problems currently facing the National Forests of the Blue Mountains.

Foster public awareness and participation in addressing long-term forest health issues as they relate to both the human and natural environments.

Review Forest Plans to insure desired future conditions are appropriate given the present condition and trend of forest health in the Blue Mountains.

Utilize fire and silvicultural means to restore and maintain forest health in the Blue Mountains within the framework of the desired future conditions described in the Forest Plans.

Improve coordination of Forest Service land management activities between adjacent landowners and other government agencies to insure that forest health concerns are addressed.

Promote integrated resource analysis to insure adequate consideration of forest health needs in terms of biological diversity, long-term productivity, watershed values, insect and disease management and cumulative effects on a landscape scale.

Encourage research for the purposes of meeting information needs and identifying standards and procedures for monitoring forest health in the Blue Mountains.

Develop technology and information resources in conjunction with integrated resource management in order to better address long-term restoration and maintenance of forest health.

It will take our best efforts to implement management that will help restore and sustain healthy forests. In closing I would like to share with you the philosophy F. Dale Robertson, Chief of the Forest Service, shared with the 56th North American Wildlife and Natural Resources Conference last month regarding the next 100 years of the National Forest Management.

"A multiple use philosophy built around ecological principles, sustainability and a strong land stewardship ethic, with better recognition of the spiritual values and the natural beauty of the forests."

Thank you.

Doug Robin, Bear Valley District Ranger,
John Day, April 29, 1991
Burns, April 30, 1991

We are operating under our new Forest Plan signed in May 1990. The desired future condition under this plan is to treat the Forest to promote a healthy forest and range ecosystem. Standards and guidelines in the Plan rely on integrated pest management activities and provide direction to use prescribed fire when it is appropriate. The plan provides the basis for a proactive approach to restoring and maintaining a healthy forest environment.

We realize that we are managing a "fire-dependent" ecosystem. The new plan allows us to simulate the historic natural role that fire played in helping sustain a healthy forest.

We can simulate the natural role of fire by using prescribed fire and other methods such as thinning. In fiscal year 91 we will use prescribed fire on about 4-5,000 acres. This is mostly treatment of harvested areas. When the plan is fully implemented, we will be using fire in ponderosa pine management, unevenaged management, reduction of fuels, forage enhancement, and so forth, on over 12,000 acres per year.

At this time, we can't move more quickly to use more fire because we need to get the forest in a condition that is appropriate for the use of fire. Before burning we need to salvage the existing fir stand both to recover the timber and to reduce the risk of using fire. And we have all the environmental laws and regulations to meet before we can use fire as a management tool.

Silvicultural activities will be used as the main tools to achieve a healthy forest condition over the long term. These activities cover the spectrum from thinning overstocked stands to salvaging dead and dying trees to clearcutting infested stands and re-planting with more pest-resistant species.

In doing so, we cannot focus only on the forest health needs. We also need to consider the other resource needs in the ecosystem, such as soil and water, big game, and recreation. Often, the best treatment for forest health problems conflicts with the needs of these other resources. We are trying to find ways to deal with this in an integrated way.

One example of this is our development and use of interim guidelines developed with the ODF&W to help us consider big-game cover needs along with forest health needs.

In the summer of 1990, personnel on each ranger district took the insect and disease map and flew their ranger district to identify high mortality areas. These flights were the basis for district sale planning, particularly for small salvage sales. When these areas occur in places that have had previous activities we may already have some of the preliminary analysis work done relative to cultural resource surveys and evaluations of threatened and endangered plant species. Most of those areas have already been treated now, however.

In 1990, 75 million board feet of our sale program was salvage. In 1991 we expect to sell 35 million board feet of salvage of dead and dying material excluding fire salvage. In addition, we include salvage within our normal timber sales when we can. Forest Health is an issue in every timber sale that we plan.

Every five years we analyze the accessible land base for management activities. This should give us the opportunity to treat priority areas for forest health needs. However, there are many areas that simply are not readily available to us to treat. This includes Wild and Scenic river corridors, dedicated old-growth, roadless areas, and visual corridors along major roads. Timber management activities in any of these areas, if possible at all, requires lengthy, in-depth planning and analysis.

We are starting the planning process on some of our roadless areas. We have started the Wild and Scenic River management planning process. We are in the process of completing a Plan amendment that will allow removal of hazard trees along roadways, and Plan standards do allow for very small-scale salvage operations before visual corridor plans are completed.

Nonetheless, we expect many areas will have severe insect and disease impacts that we simply can't treat and significant timber volume that won't be harvested. The concern is not just timber volume. The condition of our mixed-conifer old-growth stands is of grave concern. We are at risk of losing these stands with limited opportunity to replace them. Big game cover will also be severely impacted as these stands fall apart. And the risk of catastrophic fire is increased.

With the extreme forest health situation, and our attempts to meet standards for all resources while dealing with the situation, it appears that we may need to amend our Forest Plan. As the Regional Forester said in the "Record of Decision," we "suspect that the timber inventory for the Forest has been significantly reduced, thereby casting doubt on the ASQ [allowable sale quantity] calculation." We have initiated a new vegetation inventory. The mapping phase will be completed in 1993 and a managed stand survey is expected to be available in 1992. This information, along with other data we are collecting on Plan implementation, will provide us with some material to consider a Plan amendment in the near future.

Roger Williams, Heppner District Ranger
Heppner, May 1, 1991

The Umatilla National Forest Plan calls for subdividing the forest into management areas, each with its overriding objective of grazing, recreation, etc. A key element is the desired future condition (DFC).

Our district is divided into 10 planning areas. We fit the DFC into the areas and develop a pool of projects to manage. It is an evolving process that looks at how those projects will interact.

Forest health is one of the top issues in the forest. We are struggling to balance short-term needs with long-term needs in moving toward DFC. Congressional intervention is a possibility we must deal with. We first look at priority stands and decide what to do with them. Thirty to thirty-five percent of the high priority stands have been treated.

[from notes]

Vince Novotny, North Fork John Day Ranger District
Pendleton, May 6, 1991

As most of you know, we are still in a less-than-normal precipitation cycle. This continues to cause increasing insect effects on forest of the North Fork John Day (NFJD) Ranger District.

Western spruce budworm defoliation had generally been decreasing since the peak in 1986 until last year when we noticed significant increases. Forest Pest Management (FPM) aerial surveys confirmed this, showing a 2.3-fold increase in acres affected (from 143,793 to 333,910).

Douglas-fir beetle-caused mortality continues to increase especially in the areas with past fires and western spruce budworm defoliation. In 1990 there was a 40% increase in acres affected (from 54,797 to 76,571) and a corresponding 3-fold increase in numbers of trees killed (from 31,674 to 110,570).

Fir engraver beetle-caused mortality in true firs is down from previous years as is mortality caused by the western pine beetle and mountain pine beetle, but conditions (weather and stand) are such that any of these could make a resurgence.

Currently the district is emphasizing planning in areas where insect damage is high or the potential is high. Stands with high damage are targeted for potential management.

The Umatilla National Forest Land and Resource Management Plan (LMP) is our guiding document. It sets forth the objectives for any particular piece of ground in the form of Desired Future Conditions. Also within the Forest Plan are the Standards and Guidelines which are tools to achieve the objectives and promote a healthy forest and range ecosystem. The LMP provides a basis for a proactive approach to restoring and maintaining a healthy forest environment. Silvicultural activities, including thinning overstocked stands, salvaging dead and dying trees, clearcutting infested stands and replanting with more pest resistant species are being used as a main tool to achieve a healthy forest condition over the long term.

Forest health is an issue in every timber sale that we plan. Salvage material is part of our normal sale program. Currently planning alternatives include salvaging from 0 to 100% of the dead and dying material, but due to Desired Future Conditions and Standards and Guidelines alternatives generally range from 0 to 30%. This only includes areas that are available for multi-resource management. This does not include areas of dedicated old-growth, wilderness, scenic areas, or any area otherwise restricted from harvest activities.

The concern is not just for timber volume. The condition of our mixed-conifer stands is of grave concern. We are at risk of losing these stands with limited opportunity to replace them. Big game cover will also be severely impacted as these stands fall apart. The risk of catastrophic fire is increased. Effect upon the watershed involved are a concern.

We are looking at many factors and trying to decide how best to manage the ecosystem and keep a balance between long-term and short-term impacts.

Gary Rollins, Walla Walla District Ranger
Walla Walla, June 4, 1991

I would like to briefly review the major forest health concerns currently influencing the management practices on the Walla Walla District. These concerns are focused primarily on the western spruce budworm (*Choristoneura occidentalis*), the spruce beetle (*Dendroctonus rufipennis*) and a variety of root diseases.

The start of the current outbreak of western spruce budworm (a defoliating insect) occurred in the Meacham Area of 1981. In 1988, a pilot test and operational spray project covering approximately 150,000 acres was conducted in the Meacham and Tollgate Areas using water-based formulations of the biological insecticide *B.t.* (*Bacillus thuringiensis*). Since these spray projects, the budworm damage has remained light to moderate over most of the District. We are continuing to monitor the population levels and tree damage.

The spruce beetle became a major concern with the extensive blowdown which occurred during the windstorm of January 8, 1990. Large numbers of Engelmann spruce and other species were blown down during this storm. The spruce beetle has the potential to invade this down material, rapidly expand, and in turn attack and kill standing green spruce trees. Salvage logging was conducted on selected sites in 1990 and will continue in 1991. We will continue to monitor the population levels and the need for additional control measures.

Trees weakened or killed by root rots have become increasingly prevalent over the past five years. The spread of the root rot *Fomes annosus* in white fire has increased due in part to past harvest practices. The stumps of cut white and alpine fir are often infected by *annosus* spores, and it then spreads throughout the root system. When the roots of healthy trees come in contact with the infected roots, they too become infected. The District has initiated a program of treatment by applying borax to fresh cut stumps of white fir and alpine fir. The borax prevents the *annosus* spores from infecting the stumps.

Insects and diseases are always present in forest stands. Several factors have contributed to their increase and spread beyond normal levels. Several consecutive years of drought have stressed trees and made them more susceptible to certain insects and diseases. Even though the northern Blue Mountains have a higher rainfall than the southern portion and have remained fairly healthy, we are seeing increasing evidence that the trees are under drought stress.

The exclusion of fire has resulted in the invasion of species such as white fir and Douglas-fir onto sites traditionally dominated by ponderosa pine. In many ways, fire exclusion mimics a climatic shift to cooler, wetter conditions; species normally excluded by fire invade the site, vegetation and fuels accumulate, and fires become less frequent but more severe. The lower elevations and drier sites normally would act as a buffer to the buildup of insects such as the budworm and tussock moth, But have instead become avenues of invasion.

In some cases past harvest practices, certainly done with good intentions, have contributed to the current situation. Partial cutting often focused on removal of high value ponderosa pine and western larch, but left the less desirable white fir and Douglas-fir. This reduced the species diversity of the stand, removed valuable seed sources for regeneration, and left the stand at high risk to attack by defoliating insects.

There are many other insects and diseases waiting in the wings to take advantage of our mistakes or opportunities provided by nature. The Douglas-fir bark beetle, the fir engraver, the mountain pine beetle and the western pine beetle quickly attack trees weakened by drought or defoliation. Another defoliating insect, the Douglas-fir tussock moth, which caused severe tree mortality on the District from 1974-1976, is currently causing defoliation just to the south on the Wallowa-Whitman National Forest.

Currently none of these issues is limiting our ability to meet the management direction, standards and guidelines, or the desired future condition as outlined in the Umatilla Forest Plan. However, we recognize the potential present in the deteriorating forest health situation. Through the environmental analysis process and long term silvicultural prescriptions we will seek to restore and sustain a healthy forest.

Timber Industry

Bob Messinger, Boise Cascade Corporation
La Grande, April 22, 1991

Without Healthy forests our industry will cease to exist. The timber industry here is a way of life. Fifteen to eighteen percent of the area's employment is directly in the timber industry. There is also a huge capital investment in the timber industry here.

To restore forest health, we need timely salvage of the dying trees. We need rapid replanting and restoration. We need research to understand how to manage for healthy forests.

[from notes]

Roy Garten, Boise Cascade Corporation
Enterprise, April 23, 1991

It is very discouraging "as a forester interested in growing trees" to look at large acres of dead, dying timber not being utilized.

There are no, or very few, plans to regenerate areas with proper species.

Generally, the no-management mode of operation is very frustrating to myself and the timber industry.

There are many reasons why the task of salvage and replanting is not being accomplished. I'd like to relate some positive examples of what can be accomplished to make the best of a bad situation. I'll just refer to examples in Wallowa County.

Tussock Moth:
In 1974 and 1975 many acres were affected on private and federal lands. Many shelterwoods and clearcuts were created as salvage efforts were undertaken. Now most of those areas have been planted to ponderosa pine and those trees have grown large enough to provide hiding cover and are nearly to the state of requiring thinning.

Industry Land:
Commercial timberlands owners are attempting to salvage dead and dying timber.

R-6 logged mixed stands removing white fir and thinning to create healthy conditions for the stands.

Boise Cascade owns and operates about 300,000 acres in northeastern Oregon. It is not possible to cover the ground fast enough to capture all of the salvage and convert to proper species, but BCC has undertaken the following aggressive steps:

1. Has hired a private contractor that has salvaged extensively in the Flora Compartment. That salvage operation was undertaken by giving the contractor a large area, letting him mark the trees for removal after training by BCC. The areas look good, the salvage operation has created some large openings that will regenerate naturally to ponderosa pine, Douglas-fir, and western larch. The rest of the areas will be fully stocked with a variety of species.

2. Generally implemented a long-term plan to convert heavy white fir stands to ponderosa pine, Douglas-fir, and western larch which are more drought, insect, and fire resistant species.

3. BCC has monitored the insect build-up, but last year's explosive levels of infestation even surprised the experts.

4. Catherine Creek and Mt. Harris areas of Boise Cascade ownership--will salvage 24 MMBF in 1991.

5. Successfully sprayed for insects in test plots a few years ago.

6. Without many layers of bureaucracy, BCC can put up logging projects within a very short time:
   -One week between identified need for more bull pine volume and actual delivery to manufacturing facility.
   -This is one example of why industry gets so frustrated about how long it takes for USFS to plan and sell salvage logging sales.

If we can return forest management to professional foresters so decisions can be based on science instead of emotion, future managers will have more flexibility. Because we will see more and more second growth, there will be less differences in the prices of species. Prescriptions written in the future will be based more on biological needs and standards. There will be a greater need for chips and hog fuel, which will cause fewer diseased and overmature trees to be left, in turn keeping the stands thinned and more healthy.

I encourage the Forest Service to be more active in salvaging timber and in increasing forest health through species conversion. Being familiar with many areas located on the Hells Canyon NRA, Wallowa Valley RD, and the Pine RD, I know the respective silviculturists can accomplish what's needed to promote forest health. It's time to give them more authority in the planning and implementing stages of timber sale layout.

We must create a situation that will allow the USFS to move quickly and decisively in order to reduce waste of timber, which is one of our few renewable resources.

Rob Ellingson, Ellingson Lumber Co.
Baker City, April 24, 1991

Comments and Concerns on forest health

1. Inability of the Forest Service to act quickly in salvage situations as well as in preventing potential salvage problems.

   a. Regulations
   b. Harassment from obstructionists
   c. Examples: Spruce Budworm,
      Spruce Bark Beetle (Fish Lake Blowdown), and
      Teepee Butte Fire

2. Emphasis on environmental soundness of timber harvest. What about the environmental soundness of other uses, i.e. wildlife?

Ronald S. Yockim, Prairie Lumber
John Day, April 29, 1991

While it is convenient to think of the forest health issues facing the Blue Mountains as new, a review of the region reveals that we have experienced numerous outbreaks in the past. Since the 1920's we have experienced heavy mortality and defoliation from the western spruce budworm, tussock moth, bark beetles and mountain pine beetle. In the last decade alone we have experienced new epidemics of these same species.

A major difference between the previous epidemics and those we are experiencing today is a lack of quick response by the land management agencies. This lack of responsiveness can be attributed to increased sensitivity to pesticides, visual impacts and a general distrust of the agencies. However with growing concern over the amount of defoliation, loss in growth, catastrophic fires, and visual impacts, the public has looked to the agencies for action. This quest for action has led to lawsuits by private landowners against the Forest Service, appeals to Congress for help, and a general outcry in the local communities.

In response to the pressure brought by the public, the Forest Service has attempted spray programs, detailed an entomologist to the La Grande laboratory, developed a Spruce Budworm programmatic EIS, and attempted silvicultural control programs to limit the epidemic.

While the Forest Service recognized the forest health problems a serious problem, the Land and Resource Management Plans for this region were based not upon the current forest condition but on outdated inventories and endemic levels of insects. The local communities raised considerable hue and cry over the need for the various Forests to depart from the LRMP in order to accommodate forest health issues. In spite of these local concerns the plans were adopted without recognizing the impacts resulting from the insect epidemics.

In recognition that the recently adopted LRMPs were not built upon an accurate base, the Forest Service set in motion several programs to address the issue: one to assess the impacts of Spruce Budworm on the manageable understories, a second to update the inventories, and a third to utilize the data from these studies to develop a strategy to address the problem.

The summary and recommendations recently released represent an initial outline of the steps to be included in the third study. We assume that this summary will serve as the outline for development of a detailed analysis of impacts and strategies to accomplish the desired future condition.

We anticipate that this analysis will divide the various ranger districts into forest health management units which reflect the units' ability to respond to treatment. For example: a) salvage and replant, b) recovery positive with thinning and release, c) recovery positive with spray program, and d) no treatment. By categorizing the district via treatment category, the districts can prioritize their activities and schedule their programs accordingly.

An additional step in the process is to reevaluate the LRMP's with particular attention to identifying the institutional restraints which preclude prompt implementation of the forest health strategies. This reevaluation should include an examination as to the advisability of departing from constraints within the LRMP's which impede immediate attention to forest health including non-declining even flow, dispersion, visual, and elk thermal cover.

It is our recommendation that a short-term departure from these constraints should be adopted. This would allow a rapid removal of the dead and dying material thereby maximizing the timber values, allowing quick reforestation, and minimizing the likelihood of catastrophic fires.

To accommodate this departure the local industries must be willing to take a larger volume of low-value logs during the next five years, and act promptly to remove the material from the forest. Recognizing that a sale program of entirely salvage material will destroy the local industries, the forests must in turn strive to offer a sale mix which recognizes the local milling efficiencies.

Only by the local communities, industry, and the agencies working together can we fully integrate pest management into our forest ecosystem. The process will be long and will require sacrifice of all parties.

The local communities and industry are willing to help; however, the agencies must recognize that the local communities and their investments in the forests must not be abandoned by the agencies. We must incorporate biodiversity and new forestry into the process where scientifically validated, but we cannot use these concepts to retreat from active management of the forests.

We believe the intensively managed stands have demonstrated that proper attention to silvicultural controls results in more resistance to epidemics. Therefore we are not convinced that the current stocking level is not adequate, nor are we convinced that we must abandon the investments in managed plantations. We are deeply concerned that the emphasis on biodiversity and its emphasis on natural processes is not properly placed. There is no question of the role an understanding of biodiversity can play in the forest health program; however that does not equate to abandoning forest management. Our goal should be to maintain a healthy forest with a diversity of outputs that meets society's needs, not merely let nature run its course.

Don Witte, Snow Mt. Pine
Burns, April 30, 1991

I have been asked to speak on behalf of the timber industry and provide you with my perception of the "Forest Health" in the Blue Mountains. Currently, I am the Logging Manager for Snow Mountain Pine of Oregon, Ltd. I have worked on the Malheur and Ochoco National Forests for the various owners of the sawmill here in Hines for going on 16 years. While the Ochoco National Forest isn't considered part of the Blue Mountains, my comments also apply to the general condition of the Snow Mountain Ranger District of the Ochoco.

The term "Forest Health" means different things to different people. I have seen it used in relation to range condition, big-game or non-game habitat, condition on microsites, condition of specific animal species, and insect and disease. My views will be specific to my perception of the forest health as it relates to insect and disease.

Unfortunately, I believe the term "Forest Health" is becoming a catch phrase, which is being used to assist in calming the swell of national environmental emotion. If we are all talking about "Forest Health," then something good will come of it. In a natural dynamic ecosystem, all living things can not have optimum living conditions. It is an impossibility and mother-nature would not tolerate it. I think some people are under the misinformation that such a condition is possible, and it is one which we all should be striving for.

When I first came to Harney and Grant Counties, the lodgepole pine stands were just coming under heavy insect attack. Since then, the large stands of lodgepole pine have been eliminated. The smaller pockets of lodgepole pine are continuing to be attacked with some mortality. Five or six years ago, it was the spruce budworm attack on white-fir and Douglas-fir. I'm really not sure how successful the spray program was, but the epidemic collapsed and those trees which have survived seem to be recovering. Currently, our large stands of mature ponderosa pine are suffering an attack of the pine beetle, which is being helped by the drought of recent years. It is a natural phenomenon to have increases in certain insects and disease brought on by other natural occurrences, be it weather related, such as drought, or tree stand stagnation due to over-stocking on a particular site. A healthy, vigorously growing stand will fight off an insect attack. A weak, slow-growing stand will succumb.

These problems have been going on long before we got here and will continue with or without our help. I do, however, believe that there are some things which we should be doing to minimize the impacts of these natural disasters. First and foremost, in my opinion, is an aggressive salvage program to remove attacked trees from the stand. Salvaging dead, dying, and high risk trees maximizes the return on their management, as well as removing the breeding ground from the stand. On the Burns Ranger District, there is a high level of concern for the young ponderosa pine stands. Some of these stands are being planned for a commercial thinning and I applaud this effort. Unfortunately, I do not believe they are going far enough. The large trees scattered throughout this district, which are dead and dying, are being sacrificed for the commercial thinning program. If we are truly going to manage our timberland, we need an extremely aggressive salvage program, which will cover all stands whether they are of a precommercial, commercial, or sawlog size. I understand the restrictions of budgets and manpower. I also understand the multitude of laws which the Forest Service must operate under. The bottom line is that we all must work together toward the elimination of the red tape and provide the backing required to get the job done.

I would encourage all of you to go over to the Deschutes National Forest and drive through those areas around Gilchrest which are mixed ownership between Federal and Gilchrest Timber Company. The success and importance of an ongoing salvage program is starkly evident. Gilchrest has had an ongoing salvage program on their ownership for many years. There is an obvious and significant difference in the forest health between ownerships. I wouldn't have believed there would be such a large difference, but the Gilchrest lands are in a vastly superior condition.

In the overall management of the National Forest lands, we are currently doing some things which I believe are to the detriment of their health. I think we are currently leaving far too much slash untreated after logging. This material should be piled and burned or reduced in size to encourage rapid decay. Currently it is providing an excessive breeding ground for insect and disease, as well as an increased potential for another wildfire disaster.

I have a general concern with the way lands were allocated in the current forest plans. I believe there will be a strong tendency not to salvage log riparian, old-growth, or scenic areas. If these areas, in fact, will be out-of-bounds, then we have established breeding grounds from which insects and disease can develop and spread.

Lastly, we seemed to have stripped our land managers of the ability to manage. It seems as though they keep trying to be all things to all people. Unfortunately, hard decisions need to be made involving trade-offs, on-the-ground actions, and changing conditions. The political arena should not enter into these decisions. Until changes are made, which will again allow managers to manage, little on-the-ground action will take place, but many words will be spent discussing what terrible problems we have.

I believe there is a certain element in our society, which believes that our National Forest lands can be frozen in time, at whatever moment they choose. Any natural, dynamic, living community is subject to the whims of mother-nature, be it fire, wind, drought, or insect attack. It is our job as land managers, to attempt to control insect and disease attack through applications of insecticides or biological agents, and removal of the dead and dying from the stand as rapidly as possible.

In general, I think the overall Forest Health now, is not as good as it was 16 years ago. We need to provide the leadership in demanding a higher level of concern and action. The bottom line is that good forestry and a healthy forest environment are compatible. We all need to get on with that job.

John Aaron, Kinzua Corporation
Heppner, May 1, 1991

Kinzua Corporation owns approximately 176,000 acres of forest land in Morrow, Wheeler, and Grant counties. The corporation owns and operates a sawmill, cogen plant and whole-log chip facility. We process 50 million BF of sawtimber and 20 million BF of fiber annually. In 1982, it became evident that budworm activity was increasing on our timberlands. In 1982 and 1983, we tried spraying Sevin on approximately 56,000 acres. The results were very poor.

In 1986, we made the decision to begin harvest of our fir species within the Thorn, Wilson, Caplinger and Rhea Creek drainages.

Our objectives were:

1. Prevent monetary losses due to rapid deterioration of usable volume.

2. Minimize the risk of catastrophic fire by reducing potential fuel load.

3. Minimize continued mortality by removing infected timber and reforesting to ponderosa pine.

Our management practice has been to remove the maximum amount of infested timber in an economical manner. We retained the major portion of ponderosa pine and western larch for seed and shelter on these areas. We have greatly increased our reforestation workload in an effort to restock harvested areas to ponderosa pine as quickly as possible.

The USFS has considerable acreage adjacent to our property within these drainages. To date, there has been very little progress made in dealing with this infestation problem.

Our main concern is the likelihood of a catastrophic fire occurring on USFS land and spreading to our own.

Our second concern is the loss of usable timber volume and associated revenue to county and federal governments as well as recent falldown in meeting federal timber sale goals. There is a very short window of opportunity to convert standing dead fir volume to sawlogs or fiber.

Our experience in sawing this type of material has brought us to the following conclusions regarding recovery:

Species	*Size*	*Years Dead*	*Optimal Value*
GF	<16" DBH	0-1	Sawlog
GF	<16" DBH	1-2	Fiber
GF	<16" DBH	2 +	Hog Fuel
GF	>16" DBH	0-2	Sawlog
GF	>16" DBH	2-4	Fiber
GF	>16" DBH	4 +	Hog Fuel
DF	ALL	0-4	Sawlog
DF	ALL	4-indefinitely	Fiber

On grand fir, breakdown on the sapwood fiber is the determining factor.

On Douglas-fir, checking and cracking of the sapwood progressing into the heartwood is the determining factor.

Other variables affecting this are elevation, (forest) aspect, climate and size of the tree.

Jerry L. McKague, Louisiana-Pacific Corporation
Pendleton, May 6, 1991

The Forest Industry has some of the same concerns that everyone else present here has relative to forest health in the Blue Mountains.

We all want to see our valuable resources making a maximum contribution to the well-being of the nation; and, of course, the Timber Industry is most concerned with an adequate timber supply both short- and long-term.

With regard to forest pests, we have some concerns about the inability of our public land managers to make effective control efforts in a timely manner and a lack of adequate salvage programs following these pest outbreaks. We are aware of the concerns, regulations, and other factors which are dictating the current approach to dealing with these problems, but can see very little advantage to letting nature take its course. If man has had a heavy hand in creating some of the pest problems confronting us in the Blue Mountains, we should also have the responsibility to make control and salvage efforts and get the forest back into a healthy growing condition as soon as possible. Nature will be extremely slow, unacceptably so, in returning the Blue Mountain Forests to a healthy condition.

Another area of concern I wish to address is the involvement of and help for the private landowners who are affected by the various health problems in our forests. Most of us are not knowledgeable about these problems and need the advice and assistance of public agency researchers and personnel who are experts in the various forest health fields. The State Forestry Department has been helpful, and we hope to see them deeply involved in this effort.

Again, the Forest Industry is concerned about having an adequate timber supply, and the important role we play in the economy of the region must be a factor in deciding the many issues we face to ensure future forest health.

We support the Blue Mountains Natural Resources Institute.

Ed Pearson, Louisiana-Pacific
Walla Walla, June 4, 1991

We should salvage as much of the dead and dying timber as possible. The Umatilla National Forest Plan called for 140 million BF to be cut. We should use salvage for this and save the green timber. We should replant to lodgepole and ponderosa pine. We can have 10-15 foot trees in 10-15 years. This is much faster than waiting for natural regeneration.

It will take some rethinking of the forest plans. Over 50 percent of the Umatilla NF is hands-off. What is left is managed for game, etc. There is no cover to save where insects are killing the trees. If we harvest and replant, it will speed recovery.

Timber sales of only lower value species (firs) and smaller stems make the sale uneconomic. We want some of the higher value species mixed in to make the sale feasible.

Appeals rob the Forest Service and industry and counties of jobs and dollars.

Concerning the 'desired future condition', we believe silviculture is better than fire. Harvesting makes more sense than burning.

[from notes]

Environmental Advocates

Ted Brown, environmentalist, timberland owner, Eastern Oregon State College instructor
La Grande, April 22, 1991

I harvest trees on my land--about 25-30 truckloads a year. But I am also an environmentalist. We need to use informed restraint in what we do in harvesting. The forest provides an aesthetic experience. It has intrinsic beauty beyond its economic value. Man has responsibility to be a good steward.

We must manage the land for sustained yield, cutting no more than it can reproduce. We must protect the riparian areas. We can leave cull pine and fir for habitat, and stumps and large windfalls as well.

As Kathy Durbin stated in her April 15 article in the Oregonian, we have higraded Eastern Oregon for a hundred years. This results in the destruction of the genetic stock.

One thing which may contribute toward better stewardship is House Bill 2317, which encourages purchase of immature timber.

Challenges facing us include climatic change and drought. I see fringe trees dying, increase in mistletoe, larch casebearer, and mountain pine beetle, dying of grand fir on lower sites, and the drying of historical wet spots.

Suggestions:

1. Harvest Federal and private based upon sustained yields.
2. Give priority to salvage logging as part of this annual cut--not as unscheduled severance.
3. Preserve top-grade genetic stock.
4. Encourage cooperative management of prescribed fire on private and federal lands. The liability is too great for private landowners to undertake fires on their own.

[from notes]

June Bombaci, Environmental Advocate
Enterprise, April 23, 1991

It is difficult for me to adequately represent the environmental movement. The advocates of the natural world are diverse: from those who sit in the tops of ancient trees in civil disobedience (as taught by Martin Luther King), to those who wear business suits as they lobby our congress for protective laws. There are many roles that fall in between the two extremes and as many opinions as there are people to express them. I can only give my own viewpoint and will do so tonight.

This viewpoint has been formed over the last 20 years as I have been a wilderness activist, examining Forest Plans; a Forest Service employee doing environmental analysis reports and archeological studies; a sheep-herder in Hells Canyon, finding understanding for the hard work and honest people who ranch in our county; a landscape designer, finding beauty in natural forms; a gold mine reclaimationist, finding common ground with industry; and finally, as a stream habitat restorationist, putting into action my environmental concerns.

I have learned from observation and from study about the science of ecology, about soils, hydrology, and plant science. I can witness to the interconnected roles all living and non-living things perform on the planet Earth. I have come to view our ecosystems as houses built of cards. Fragile. Intricately stacked. Each niche so delicately balanced that it's removal can send the whole house tumbling down.

Stream restoration has placed me as a healing physician in a reality built by poor past management. Over-grazing, streamside logging, too many miles of road building, excessive forest canopy removal; these practices have created many, many, many miles of denuded and degraded watersheds. Deep inside I know that we need to learn a new reverence for the ecological systems of life, of creation.

The formation of the Blue Mountains Institute has sprung from the awareness of our past management problems. It is my hope that together we will learn to manage our forest resources responsibly.

Perhaps we should look to the farmer when planning the new forestry. Working patiently towards his harvest, a farmer knows there is a time to prepare the soil, to plant, to thin, and cultivate. Finally comes the harvest; the stubble is then burned or allowed to incorporate into the soil for the new harvest. Our forest workers must be flexible in each phase of the work towards harvest. We must be patient in working towards a harvest of <u>all</u> the forest resources.

Bruce Honeyman, Friends of Lake Fork
Baker City, April 24, 1991

General Perceptions regarding the issue of forest health.

1) It is a consequence of the way we think and relate with the forest.

a. planet belongs to man to use
b. commodity outputs increase, manipulate, select

Lack of forest health due to:
non-wholistic, emphasis on timber at the expense of other elements
nutrient cycle, carbon cycle, water

2) What to do

Revise our view
we are part
limit our impact
decrease our demands
let nature
only take what is excess to functioning
no extirpation of species or process
support this committee
support biologists
recovery and conservation

[printed as submitted]

Tim Lillibo, Oregon Natural Resources Council, Grant County Conservationists
John Day, April 29, 1991

We've heard this before. Terms lead to a certain path, but the path is not the right one. The Forests will do what they want.

Attempts to mimic nature is good. It shows a broader perspective. It is good that is coming out now. We have to go beyond "man doing better than nature."

We must get away from quotas and start over with the big picture and look at the long term. Look at where we can fit in with nature and still produce products, water, and recreation.

Biodiversity management and ecosystem management are good. Implementation of these concepts is the key. These are big changes in management approach. It's about time.

[from notes]

Jim Barenburg, South Fork Drainage Council
Burns, April 30, 1991

Landscape management needs to include drainage management. It is a mistake diverging from sustainable yield in drier climates. We have gone to even-aged management and burns. As a contract thinner, I saw vegetation either burned or taken to the mill. This material, if left on site, serves as an erosion deterrant and improves soil quality.

We should shy away from expansion (development?) in the wilderness. Wilderness really takes a beating from people (visitors?). Only a small portion of the National Forests are in wilderness. We need to leave alone the remaining roadless areas until we find out what the Forest Service is doing.

Uneven-aged management is needed.

Wilderness areas pit one community against another. There are social and economic problems related to wilderness areas.

Every high school needs to form reforestation work squads for the summer. Timber industry and environmentalists need to get together and solve problems without the Forest Service. We need to reforest all that is cut.

[from notes]

Kevin Scribner, Umatilla Forest Resource Council
Heppner, May 1, 1991

My name is Kevin Scribner, and I have been asked to represent the Environmental Community on this panel. I live in Walla Walla, Washington, and am a member of the Umatilla Forest Resource Council, and the present facilitator of the Blue Mountains Native Forest Alliance. By trade, I am a commercial fisherman, migrating north to Alaska every summer, in pursuit of sockeye salmon.

After having read the Summary, Draft, and Final Report on the "New Perspectives on Forest Health," I find myself in a unique position. Usually, in order to persuade officials to follow two central tenets of sensitive land management, that of "designing with nature," and then to exercise caution when so doing, environmentalists reach for some hypothetical "worst case scenario." More often than not, this display of pessimism frustrates folk, for it flies right in the face of a thread that runs through the American culture, that of a strong "can do" spirit.

But today, in the Blues, we do have just such a "worst case scenario" unfolding. What is occurring out there on the ground stands in stark contrast to the ambitious and optimistic Forest Plans recently issued. In these, we expressed our confidence in pushing many of the diverse forest resources to what was considered to be minimally viable levels.

Now it appears that the land didn't read nor sign onto these Plans. No, it seems that Nature is in revolt.

There may be some within the environmental community who will succumb to the temptation to sing out with the "I told you so's." But I agree with the Report that blame will get us nowhere. We have an extraordinary circumstance on our hands, and it asks for us to similarly depart from the ordinary, from what we have come to expect as "business as usual."

Pointing the finger of blame is inappropriate, except in two cases: 1) if we do not recognize that Forest Health is THE issue of our Blue Mountains; 2) if we're eventually successful at helping the land regain its health, and then we re-make the very same mistakes that have now unraveled the ecosystem.

How we will assist the forest in restoring its health is the task of at least our lifetimes. I applaud and take to heart the call by the report for a "new perspective," and agree that this must consider long-term productivity in terms of "ecological potential." This Desired Future Condition pictures Forest Health as a landscape of diversity comprised of HIGHLY VIABLE population levels of native species.

How we will manage this will strain our imaginations, tax our patience, stress our communities, and require the generosity of the nation. Luckily we already have the legal mandate to so direct our energies, for the NFMA states that biodiversity is a management goal. But then, I agree with the report when it says that "a lack of adequate funding to carry out certain silvicultural activities is one of the biggest barriers to rehabilitation...."

Public land management is a national issue. The environment is also a national issue. Our requests for assistance must, I believe, reflect both of these issues. We will be called upon to display our regional worthiness to receive tax dollars. To do this, we should express our intent to care for these lands not for private gain, but for the public good. I believe that we can claim ownership of these Forests in our backyard only by the means of sincere stewardship.

And we must insure that we will not make the same mistakes twice. This land up here is wild. These forests have secrets we're just conning onto. They still prove unpredictable, have the uncanny ability to bewilder us, and this just when we were beginning to feel quite confident at guiding it along. Some may feel we had these tricks coming to us.

It has been said that "we command Nature by obeying her." [Rolston, Philosophy Gone Wild]. This is the message we can relay to the rest of our nation, in exchange for the funds we need. To do so, though, our communities must exchange the tradition of "business as usual" for the other tradition of which our society is proud, that of "problem solving," of successfully meeting a challenge, of relying upon our limitless capacity for ingenuity.

A landscape ecologist recently said that "biology can't negotiate." But we humans celebrate the talent for swift adaptation afforded us by our ability to create culture. Or, in some cases, to destroy culture. If we can watch a missile fly through a window, we can come up with alternative, locally grown alternative sources of fiber--this while we relax our pressure on these ailing forests.

"Out of every setback is an opportunity." This is no different. Here we have the chance to gather together in a never before seen coalition, one dedicated to re-creating a forest, a wildlands. And as well, displaying how resource-dependent communities can derive alternative wellsprings.

We can do this, or continue on with "business as usual," and fight over divvying up the last of the dead sticks we used to call trees. I daresay the nation will be more willing to share with us if we evidence an extraordinary cooperativeness. Can we successfully explain to the world that for some time to come our industry and recreation in the Blues may be in the re-creation of a native wildlands?

To do this, I urge us to match the Forest Service with their refreshing candor exhibited in this report. It is time for honesty to be the currency of resource management. Too, I wish that we act with courtesy, to each other and to the land, that we avoid being stingy. And finally, we will need the patience and selflessness of the cathedral builders in the Middle Ages, who designed and broke ground on projects they had no chance of seeing completed.

In closing, a poem:

FOR THE CHILDREN
by Gary Snyder

The rising hills, the slopes,
of statistics
lie before us.
the steep climb
of everything, going up,
up, as we all
go down.

In the next century
or the one beyond that,
they say,
are valleys, pastures,
we can meet there in peace
if we make it.

To climb these coming crests
one word to you, to
you and your children:

STAY TOGETHER

LEARN THE FLOWERS
GO LIGHT

Thank you.

Shirley Muse, Blue Mountain Audubon Society
Pendleton, May 6, 1991
Walla Walla, June 4, 1991

I have been asked to address the issue of forest health in the Blue Mountains ecosystem from an environmentalist's perspective. I am a member of Blue Mountain Audubon Society, Umatilla Forest Resource Council and represent National Audubon Society on the Board of the Blue Mountain Natural Resources Institute in La Grande, Oregon. I have been very involved in forest planning issues since 1985 and I am convinced that forest management must deal with forest health. This should also become an issue of vital concern to all who live near the Blue Mountains.

The Forest Service predicts that Blue Mountain health degradation will continue and perhaps worsen. We cannot ignore this problem any longer--it simply will not go away. I have studied the Summary, Draft, and Final Report on the "New Perspectives on Forest Health" and I commend the Forest Service for its frankness and candor. As Pogo declared, "We have met the enemy, and he is us."

One of the worst abuses perpetrated on these forests has been fire suppression. Unlike logging, which produces wood products, or grazing, which produces food, suppressing fires to "save timber" has in fact accomplished just the opposite. Fire suppression has allowed subclimax tree species to proliferate; it has caused a steady buildup of fuel loads that in the long hot summers of this area are conducive to disastrous fires. Clearcutting and high-grading, both popular methods of timber cutting, provided greater profits for industry but damaged the structure and genetic strength of the older trees. Because of these practices, we are fortunate to have any intact stands of old forest survive in the Blue Mountains at all. If our forests are in trouble, the populations of wildlife dependent upon them are in poor shape as well. Some species, such as the wolverine and pine marten, are worse off than others, while cavity nesting birds, i.e., white headed and pileated woodpeckers, and others such as the goshawk, flamulated owl, Vaux's swift and pygmy nuthatch depend upon a healthy forest and may not survive unless we do something about the poor health of the Blue Mountain forests.

We are facing a problem that took decades to create; a problem that will take decades, if not centuries to correct. The "worst case scenario" is here! And the Forest Plans released for the three Blue Mountains forests last year are too optimistic; their management prescriptions will never work unless the health of the forests is restored. According to Chris Maser:

> "The only time we will practice 'forestry' is when we begin to see the forest and we begin to restore its health and integrity--restoration forestry. Restoration forestry is the only true forestry. We use the forest--remove trees and nutrients--and then we restore its vitality, its sustainability so that we can remove more products in time without impairing the forest's ability to function. From the time we cut the original old-growth, we must continually practice restoration forestry. Anything else is not forestry. Anything else is simply abuse of the system for short-term economic exploitation." (Redesigned Forest, 1989, p. 174)

Dr. Maser goes on to say that restoration forestry is both cyclic and linear and that through time it "simulates Nature's blueprint over a landscape."

In order to restore our forests, it is crucial that we change our forest management practices. Professionals and non-professionals alike need to think in terms of ecosystems before indigenous species, both plant and animal (such as the Columbia salmon) within them are at the brink of extinction, or become victims of either natural or human-caused disaster. If we can do this we might avoid being forced to look at a species as endangered and impose reactive stop-gap or temporary treatments. Let's not always treat problems with an

"emergency-room" mentality. It will take economic and social adjustments to look at forests in this manner, but we have no other viable choice.

What are some things that we, collectively and cooperatively, can do to put in motion the necessary "management" practices that will start the Blue Mountain forests back on the road to health? Again, I commend those who have worked on the forest health study. It includes refreshing language and candid suggestions which are very encouraging and optimistic; however, decisions made from this point on must be based on the best scientific data and economic information available. Forest managers should make decisions based on the advice of highly qualified biological, natural history, and social scientists. A committee composed of such scientists could be formed to advise forest managers. I do not think we should try to correct the problem only through logging or business as usual. We might consider a moratorium or reduction on logging and road-building until a committee of scientists can make recommendations and until these are implemented.

Environmentalists should argue for conservation and a reduction in timber cut levels, but we must also look for creative ways to protect and fund maintenance for those parts of the forest we value and wish to keep intact. We know that funding is tied to timber. We've got to change it so that other forest uses will pay for needed timber to be cut. Perhaps then we can do the necessary cutting and put the timber by the side of the road for industry to pick up. The public must assume more of the direct costs associated with management. We can pay for recreation, we can pay for non-commodity uses of the forests, and we can support fees for a variety of forest activities. Randall O'Toole maintains that if forests could realize only a third of the recreation values claimed by the Forest Service, recreation receipts would greatly exceed combined timber and grazing collections in most areas. Most important of all, perhaps, the public must become involved in the process of caring for our forests. Final decisions are made in Congress. Appropriations come from Congress, and we must become involved in the appropriation process. Get to know your congressional representative and your senators. We elect them and should let our concerns be known to them. In an intricate and complicated interaction between the Forest Service and our elected officials, the amount of timber that is cut on the Blue Mountains in any given year is set. We all need to be involved.

Hindsight truly is better than foresight. We should have been looking more to the future 30-40 years ago, when timber harvest was beginning its swift rise in quantities. If we are to err again, the prudent approach is to err on the side of the forest. Remembering that there are no enemies out there--just people trying to do what they feel is best at the time--cooperative efforts must involve all aspects of the social structure in the area. We will need patience. It took time to get where we are, and it will take time to restore the forests to what they once were and should be again--healthy ecosystems.

Native Americans

Rick George, Confederated Tribes of the Umatilla Indian Reservation

LaGrande, April 22, 1991
Enterprise, April 23, 1991
Baker City, April 24, 1991
John Day, April 29, 1991
Heppner, May 1, 1991
Pendleton, May 6, 1991

The Confederated Tribes of the Umatilla Indian Reservation signed a Treaty with the U.S. Government in 1855. Rights were reserved by the Tribes to utilize the fish and wildlife and botanic resources of the Blue Mountains, in exchange for the ceding to the U.S. Government of over 6 million acres of land.

Forest health cannot be measured. Yet degrees of forest health can be estimated based on the capacity to produce over time chinook salmon, steelhead, saw-timber, camas, pacific yew, and deer and elk. The diversity and quantity of products is a reflection of such on-forest parameters as water quality, stand structure and species composition, and soil nutrient conditions.

"Fixing" forest health will be a monumental task. Success will in part depend upon our ability to recognize causative factors, and to recognize the limitations of our understanding of ecological processes. Success will in part be measured by our ability to achieve a healthy forest while preventing the local or regional extinction of species.

A healthy forest is one that produces the products demanded from it, while sustaining itself over time and space. Many of the products encompassed by the Treaty of 1855 are no longer produced in the quantities necessary for Tribal subsistence and religious use. As such, forest health is both a condition and a process that is of critical importance to the Confederated Tribes and its members.

County Government

Steve McClure, Union County
La Grande, April 22, 1991

There is a direct relationship between Union County's economic well-being and the health of the surrounding forest. The wood products industry, fueled by the timber resources from the surrounding area, is a major economic force in the county. Any factor that reduces either the quality or quantity of that resource will have a direct negative effect on the county's economy.

Currently, the county's wood products industry employs over 1200 people or 13.6% of the work force. In 1989, $31.8 million of payroll, 23% of the county's total, was generated by wood product's workers. The state employment office ranks wood products fourth in the number of jobs in the county, but second in their value. Because wood products jobs are among the highest paying, the effects of any disruption in this industry has a heightened effect on the county's economy.

Union County is also impacted by the loss of revenue when there is an interruption of timber harvesting in the National Forest. On an average over the past five years 32% of the county's road departments budget, nearly $800,000 annually, has come from federal forest receipts. The county's school districts also share in those receipts and any disruption has an effect on those revenues.

Viewed in the light of the close relationship between the wood products industry and the county, the forest health issue becomes one of major concern. How this problem is dealt with has a direct effect on the county and the people who live and work here. This problem must be viewed from two aspects: first the immediate problem of dead and dying timber, and second the long-term planning to prevent or deal with the problem in the future.

The reality of what has happened in the Blue Mountain forest has to be faced and dealt with. A sensible planned management strategy must be put in place to allow for the recovery of the dead and dying timber as well as some type of control program. The catastrophic nature of what is happening must be addressed. The reality of rapid deterioration of dead and dying timber must be taken into account in developing a recovery plan so that recovery is an option. If the process that is used to allow for the recovery of this timber is so cumbersome and drawn out that by the time it is completed there is no timber left to recover, we have effectively eliminated a management tool in dealing with this problem. All forest plans in the National Forest should be required to have in place an enforceable plan to recover timber that is lost through some catastrophic event be it fire, insect damage, disease or whatever. These plans should take into account the necessity to quickly recover these resources while they still have a value.

Part of the immediate plan should be to develop a strategy to deal with the ongoing problems of disease and insect infestations. An ecologically sound plan should be developed using all tools available including both chemical and biological controls to stem and control these problems.

Even more important than a plan for immediate action is the need to develop long-term forest plans based on valid scientific information for the management of our forest. As we come to the realization that past practices have contributed to the problems we now face, it is necessary to do the basic research to understand the outcome of the practices we are now employing. The development of this scientific understanding is key in formulating management plans for our forest that will allow us to avoid the mistakes we have made in the past. We must base our decisions of forest management on knowledge and understanding not on emotion or politics.

The Blue Mountains Natural Resources Institute is a first step in developing this basic knowledge we nee in planning the future of the Blue Mountain forests. A region-wide commitment is needed for the success o the Institute together with adequate funding to insure that we will have the ability to base our managemer decisions on sound scientific knowledge and facts.

As we develop management plans for a renewable resource with a life cycle of over 80 years we must develo those plans based on the length of that cycle. We cannot attempt to manage our forest with a series o constantly changing plans. We must develop a consensus of what our objectives are and then make plan that will manage them in terms of the length of the forest's cycle. To avoid the catastrophes we are now seein in our forest these plans must be based on scientific facts. The forest is a dynamic system and it will not ben to the will of politicians or emotional feelings of what should or shouldn't be. We must plan the use of our fores based on a clear understanding of the impacts of what we do in those forests in the context of the long term

The future of Union County is clearly linked with what happens in the forests of the surrounding area. As th pressure for the use of those resources increases in the coming years we must be prepared to do the bes job possible of caring for them. As we see now, what we do in those forests has a long-term effect on wha happens to those of us who work and live in the County, and we must be willing to commit the resources an effort necessary to develop the scientific information on which to base those management decisions.

Pat Wortman, Wallowa County Commissioner
Enterprise, April 23, 1991

We must pay attention to the health of our forests. It has an impact on county, state, and federal governments. Right now we have a very unstable tax base, and we need to stabilize it as quickly as possible. It is encouraging to see people come together in solving problems.

Approximately 90 percent of the harvest proposals have been appealed. We need balance and cooperation.

Water is a very important resource. There is a study going on now on the Wallowa Basin. It is difficult to maintain the watershed with unstable forest resources.

[from notes]

John M. Brown, Baker County
Baker City, April 24, 1991

County governments must be concerned about the health of the National Forests in Oregon. Baker County, which has close contact with all three national forests to which we are directing our attention, is especially concerned about the well-being of the Wallowa-Whitman National Forest, but also has deep concerns regarding the Malheur and Umatilla Forests.

Public lands, including the national forests, constitute about 50 percent of the land mass of Baker County. All counties in Oregon contain a large percentage of public lands. This is a fact of life. The condition of those public lands has a great impact on the counties in which those public lands lie.

The impact of public lands, and the condition of those lands, on counties, is two-fold. The first is the economic impact on the communities in the county, and on the people in those communities, of activities which occur on the public lands. Activities such as livestock grazing, mining, tourism, harvesting of forest products, hunting, fishing, all provide employment to people in the county. If employment opportunities in Baker County were limited to those which could occur on private land, economic activity in this part of the state would be much less than it is today.

Since economic activity produces wages and salaries which support the population, and the income of the population supports the services which are provided by the county government through property taxes, it follows that a decrease in economic activity will be directly followed by a decrease in services provided by local governments.

All of the activities mentioned before, which occur on public land, are directly dependent on public lands in a healthy condition. If public grasslands are in poor shape, livestock cannot get sustenance there; tourists do not want to travel in lands which are not attractive; insects, disease, and the devastation of fire reduce the prospects of harvesting forest products; fish and wildlife do not thrive in an unhealthy environment. Economic activity is materially reduced on public lands which are not healthy and productive. Reduced economic activity means reduced wages and salaries, and eventually, reduced populations.

For county governments, the options are sharply increased taxes for the remaining population to provide a constant level of services, or a sharp reduction in those services. Not an attractive choice, especially for those charged with making the decisions in the county. Not an attractive choice for those living in the county either.

The second impact on the counties, of an unhealthy state on the public lands, is a direct fiscal impact. While the counties do not collect taxes directly on the lands within the county owned by the federal government, activities on those lands do provide funds for the county coffers. Other local government agencies are also beneficiaries of economic activity on the public lands.

As an example, forest products harvested from public lands, such as timberlands administered by the Wallowa-Whitman National Forest, are harvested under a contract between a purchaser and the federal government. These contracts stipulate a price for the privilege of harvesting the products. The contracts also specify other conditions too numerous to mention and which have no bearing on this discussion. One quarter, 25 percent, of the revenue collected by the Forest Service for the harvesting of forest products from national forest lands, is returned to the counties in which the national forest is located. Now, this is not a paltry sum. While the amount varies from year to year, the total is in hundreds of thousands of dollars for Baker County.

By law, the money returned to the counties from the sale of forest products from national forest lands, is allocated to county roads and county schools. Seventy-five percent of the forest funds returned to the counties are to be spent on public roads within the county, and twenty-five percent is allocated to public

schools within the county. So, if Baker County receives one million dollars a year from the Wallowa-Whitman National Forest--and that is not an unrealistic figure--seven hundred and fifty thousand dollars will be directed to the county road department, and two hundred and fifty thousand dollars will be distributed to the public schools in Baker County. The public schools also derive funds from the federal government based on the number of people who are employed in activities on the national forest.

Baker County, and all the counties in Northeast Oregon, are dependent on the continuation of activities on the national forests, the Wallowa-Whitman, the Malheur and the Umatilla. The situation, from what we have heard tonight, has reached a critical state. We cannot afford to ignore the problem. Neither can we afford to eliminate all economic activity on the public lands in Northeast Oregon. Programs to insure the good health of the national forests must include a continuation of the commodity uses of the public lands. The forest products industry can assist in silvicultural projects designed to improve the health of the national forests.

The Baker County Court would like to be a participant in the program to restore the national forests of Northeast Oregon to a healthy state.

Kevin Campbell, Grant County Judge
John Day, April 29, 1991

The position of county government is that short- and long-term management should lead to community stability. Perceptions and prejudices mixed together are deadly. We must make credible decisions so that the resources are better served. The public must be educated so that decisions are based on credible input by all the public.

The Blue Mt. NRI is a step in the right direction. Federal and local governments must work together. We must look at the questions with vision, keep our children in mind, and manage well for the long term. We need to address these issues ourselves. If we don't, who else will? When we are lacking something, we become discontented and want to see action. We must act with vision beyond our own bias and prejudice. Decisions must be local to be credible.

[from notes]

Dale White, Harney County Judge
Burns, April 30, 1991

Harney County is ponderosa pine territory. Fire suppression activities have converted it to other species. That is not good in this area.

Secondary ponderosa pine wood products are our future here. How do we get there? Experts need to come up with solutions quickly. Fire in its natural sense will be a clue. We want to have ponderosa pine in uneven-aged stands for economic stability.

[from notes]

Lewis Carlson, Morrow County Judge
Heppner, May 1, 1991

My discussion will be in two parts. The first part will be a philosophical one and of questionable value. The second part will be a factual one based upon fiscal impact to local county government.

A couple of years ago I was asked by the Forest Service to be a part of a review team to develop a forest use plan for the Heppner Ranger District of the Umatilla National Forest. At that time I questioned whether or not I was qualified to be a part of that decision-making process. Nevertheless, I was proud and honored to be a part of that team, and I do feel that there needs to be public input into forest management decisions but only on an advisory level. Previous management practices based upon private interest and pressure groups have obviously led to a second-rate forest composed of mostly fir and less desirable species in a once historical pine stand. Forest personnel admit that their own past management practices have been flawed and have contributed to the present deteriorated condition. In addition, unexpected droughty weather patterns have influenced the health of the local forest far beyond anyone's expectations.

Even during the short period of time since this forest use study began, the explosive deterioration of our Umatilla Forest due to disease was not anticipated to the extent that we are experiencing today.

Much of this, of course, is due to the extremely dry cycle that we are experiencing. During the past five years, trees in the forest are hardly showing any growth and are under considerable stress, very prone to disease and insects and much like a field of wheat in the months of April and May wilting under the summer heat with a severe infestation of yellow dwarf virus.

In the case of the field of wheat, the question facing the farmer is whether to go ahead and harvest at a small loss or to destroy the crop and replant the crop to a variety that is resistant to yellow dwarf virus.

In the case of the forest, the scenario is almost identical with the exception of the element of time. Since the crops of wheat are grown on an annual basis, the gravity of the management decision is an annual one. In the case of the forest, the crop management decision is more likely to be one of not less than 100-150 years. For this reason alone, the management of our forest should be left to those who are professional foresters. You see, I don't believe that a wheat farmer should be managing a pine forest any more than a professional forester should be telling Irvin Rauch or Frank Anderson how to raise a crop of soft white wheat.

"The way I see it," special interests and political interests have whip-lashed forest management decisions into bad decisions as evidenced by the condition of the forest today. Another way of saying it is "We have met the Enemy and it is US." Enough of the philosophical and on to the factual.

The U.S. National Forest does not pay property taxes to Morrow County. Instead, forest receipts are paid to the County based upon the amount of timber harvested each year. Three-fourths of the receipts are paid to the Morrow County Road Fund. One fourth goes to the Morrow County Schools.

Last year the Morrow County road received $369,768. This year, we received $325,049 or $44,719 less than last year. These dollars are spent on county roads of which 90 miles are forest product roads, that is roads leading to and from the Umatilla National Forest. Of the 90 miles, 58 are paved and 32 are gravel. Approximately $74,000 of the forest receipts are used for the upkeep and maintenance the 90 miles of forest service roads.

Of the $325,000 forest revenue, $114,000 is used for the upkeep and maintenance of Morrow County Primary roads, that is those main roads that are trunk lines that carry agricultural products to market and school bus roads.

Approximately 5% or $16,000 is used for capital outlay, that is the purchase of equipment each year. And of course some is used for secondary roads as well.

Schools in Morrow County receive 25% of the forest fees which amounted this year to $108,000. Not a lot of money in terms of their total budget but better than a kick in the seat of the pants.

Even more important than the forest revenues of approximately $325,000 is the employment of approximately 45 full-time employees. In addition there are 30-40 seasonal employees which amounts to well over 1 million dollars of payroll by my approximate calculations.

When you add this employment to that of the Kinzua Corporation, logging crews, and trucking companies associated with the timber industry, it is evident that the forest of the Heppner Ranger District is a major driving force in Morrow County and is the economic life line to the city of Heppner.

Emile Holeman, Umatilla County Commissioner
Pendleton, May 6, 1991

As an elected official of Umatilla County, it is quite obvious to me that the ecological health of the Blue Mountains within the boundaries of our county, are essential to and are of vital concern to all Umatilla County residents as it represents such a tremendous resource in terms of year-round recreation, commerce, and overall beauty. There is ever increasing demand for recreation and concerns over water quality and quantity, air quality, fish and wildlife habitat, forest and rangeland productivity, all held in delicate balance by competing agencies and special interest groups.

One such local group is Blue Mountain Forest Products, Inc., a locally owned and operated sawmill operation, with a substantial impact on our local economy as witnessed by the following information for year 1990.

	Umatilla County	Total In Oregon
Number of full time employees	90	145
Total 1990 gross payroll dollars	$2,425,000	$3,600,000
Paid to contract loggers	$1,880,000	$4,715,000
1990-1991 property taxes	$76,000	$180,000
Board feet of logs processed	13,500,000	32,500,000

In the spring of 1990, the estimate made by the Forest Service was that the South Umatilla (southern half of the Umatilla National Forest) would lose 600 million board feet of timber to insect damage within the next five years. In October of 1990, the estimate was 600 to 800 million board feet. The amount of this timber that is planned to be harvested is about 25% of the total, or a total of 150 million board feet.

The reason for leaving the remainder of the dead and dying timber is for elk habitat primarily.

We have pointed out that leaving 450 million board feet to rot in the woods can only be called waste. This is enough volume to operate the mill at Pendleton for 22 years if available for that long. Since this wood is deteriorating, it must be harvested within 2 to 3 years, therefore providing jobs and a source of raw material for several mills within the Umatilla-Morrow County area. This means local income, spent locally, as well as stability for the business.

The Umatilla Forest and the Oregon Department of Fish and Wildlife have stated that the elk population in the Blue Mountains is at or near the carrying capacity of the range. We believe that logging the dead timber will enhance their forage. No one has shown that all the logging to date has harmed the elk, since their numbers have increased steadily since 1933.

Because reforestation and natural regeneration are an ongoing process, there should be hiding cover for the elk forever in the new green stands of timber. The Forest Service proposal to leave the dead timber standing for thermal cover for the elk is a shortsighted idea. These trees will rot, fall down and be useless for cover within 6 or 7 years if not sooner as a result of wind storms. No one has proven to our satisfaction that elk need thermal cover. There is a herd of elk on the Hanford AEC range at this time.

Potential loss in revenue-sharing with the Counties on the South Umatilla can be figured conservatively as follows:

A. 450 million board feet sold in a timely manner, while still marketable, could be worth $50.00 per thousand board feet on the market. This would make a value of 22.5 million dollars. Maximum county share of this revenue over the life of the timber sales would be 25% or $5,625,000.00 this is the possible loss to Umatilla and Morrow Counties. Actual loss could be lower because of development costs and higher because the timber may sell for more than $50.00 per thousand board feet on the average. So it does become apparent that the Forest Health Report will have a direct impact on many agencies, public and private, and that it behooves us all to help implement a cooperative management plan that will help restore and sustain a healthy forest.

George Wood, Columbia County Commissioner
Walla Walla, June 4, 1991

I would like to thank the Blue Mountains Natural Resources Institute for this opportunity to share in this evening's program.

Columbia County is the "Gateway to the Blue Mountains" for southeastern Washington. Hundreds of thousands of people come into the county and head for a Blue Mountain destination such as Ski Bluewood, the Wenaha-Tucannon Wilderness, the Camp Wooten Environmental Learning Center, the Tucannon Lakes, or their favorite elk camp on a mountain ridge. Adding to the list are mushroom hunters, berry pickers, firewood gatherers, snowmobilers, and other who enjoy a time in the mountains. You can see that the Blue Mountains have major recreational importance.

The Blue Mountains contribute much to the economy of our community. The owner of a supermarket in Dayton has reported that the days before elk season were more important to store sales than the days just before Thanksgiving and Christmas holidays. However, the decline in the Blue Mountain elk herd and the 'spike only' hunting rule has reduced hunting to the extent that sales in the days before elk season are no different than ordinary sales.

Our general merchandise store, motels, restaurants, taverns, gas stations, and, in fact, just about each business on Main Street benefit from people heading for the Blues for whatever reason.

This is especially important because our farm-based economy is depressed and holds little potential for expansion. Our county's unemployment rate is one of the highest in the state. Our population is aging as young people leave the county for education and to look for work without much hope of returning to a job within the county. Population has declined from 5549 in 1949 to under 4100 in 1990. Our per capita income is also one of the lowest in the state. Health care is limited despite vigorous efforts to recruit doctors and the hospital has been on the brink of economic collapse for some time.

We in Columbia County see the Blue Mountains as holding a great deal of potential to increase our economic base.

There are other reasons the Blues are important to our county. A significant 35% of our county is forested. The majority of this land is in the Umatilla National Forest, but we have over 40,000 acres of private woodland important for timber, grazing, and recreation. The national forest land timber sales annual revenue of about $500,000 is shared by our public schools and the county road fund. This is a significant portion of the budget for these agencies.

It is also important to note that the Blues are the watershed for much of our county. Water quality and quantity are directly affected by the way our forested land is managed. The Tucannon and Touchet Rivers are outstanding steelhead and trout streams with headwaters in the Blue Mountains.

Columbia County Commissioners meet regularly with Pomeroy and Walla Walla Ranger District officials to keep abreast of forest activities. We also meet with State Game Department employees and sportsmen club representatives to exchange items of interest and concern.

Management that enhances the many resources of the Blues, especially forest health, enhances Columbia County and other counties hosting the Blues. A cooperative, integrated program of research and application throughout the Blue Mountains makes common sense.

Wildlife and Fisheries Resource Specialists

Bob Mason, Wildlife Biologist, Wallowa-Whitman National Forest
La Grande, April 22, 1991
Baker City, April 24, 1991

Healthy forests sustain viable populations of fish and wildlife. This seems to be such a simple statement but in reality it is intensely complex.

Particular wildlife species or group of wildlife species require different things from the healthy forest. Some species of insects may live out their entire life-cycle in one log; while larger vertebrate species (such as the wolverine) range over many square miles.

Accommodation of this cross section of life forms is best handled through a dynamic continuum of habitats at the forest stand, plant community, and landscape levels.

Complicating this motion of sustaining populations viability through a dynamic continuum of habitats is us. Our management activities both impede and hasten habitat changes across the successional gradient. We have suppressed fires encouraging insect-intolerant tree species to dominate certain areas. We have removed valuable big-game cover and increased species vulnerability through construction of extensive road networks.

To me as a wildlife biologist, forest health means something more to me than just insuring a tree's resilience to insect outbreaks. We need to understand how that embattled tree, as well as the multitude of other habitat features, i.e., snags of all sizes, downed logs, riparian areas, rock outcrops, ecotones, old-growth, dispersal corridors, juxtaposition of habitats etc., aid in sustaining species viability. We need a better understanding of how our management activities can replace those natural process no longer occurring.

Managing for healthy forests also means reducing species vulnerability. We spend a lot of time debating the importance of cover for big game. How much cover do elk and deer require? Does it vary between winter and summer? Is thirty percent enough? However, it seems to me not a question of cover, but vulnerability. Historically large fires produced areas now absent. Increasingly our activities have created situations which promote species vulnerability.

As a relatively newcomer to northeastern Oregon, I offer the following observation: it seems that we look into the past not as a reference for which to understand the future, but as a matter for accusation. Like it or not, we are stuck with that baggage. To a certain extent that past baggage has been responsible for important wildlife habitat existing today. I have no desire to return "carte blanch" to the open pine-dominated landscapes of the past. My vision is to work with all facets of the public and look out into the future. Together we need to describe what we want our wildlife habitats to be 50, 100, and 200 years from now. We need to develop management strategies that we can agree on to get us there. Essentially we need to have a "desired future condition" for our healthy forest.

Kevin Martin, Wildlife Biologist, Wallowa Valley Ranger District
Enterprise, April 23, 1991

Humans want a lot from their National Forests, including the fish and wildlife resources that many of us enjoy. The situation we face today, as previous speakers have discussed, is a result of our past activities. We have been trying to get as much, probably more from our National Forests then they can give. There is a limited amount of resources and everyone wants their share and new demands are always increasing.

We in the fish and wildlife management business are not new to health issues and their indicators. We have been interested for many years under the guise of habitat improvement in improving the health of species and systems. We have been trying to lower critically high water temperatures and reduce sedimentation through the planting of riparian areas and fencing out of livestock on streams. We have been creating snags and putting out nest boxes to provide habitat for cavity nesting species. We have been closing roads to reduce the harassment of many species by increased use of the forest. The list goes on. But what we have not been very good at is working with the other resource managers to manage the forest as a whole, to leave more large standing dead trees, to leave some trees and shrubs along streams which not only shade the stream but provide a barrier to livestock so we would not have to fence. We have been just as guilty of concentrating on individual species management and have forgotten they were connected to the rest of the forest.

Another indication of the health of our forests is the growing number of endangered, threatened, and sensitive species. The reasons many of these species are in trouble is because of the loss of habitat. This loss of habitat is an indicator of the loss of biological diversity. To have a healthy forest you MUST maintain biological diversity. I guess Aldo Leopold probably said it best: The sign of intelligent tinkering is in keeping all the pieces.

Hal Salwasser (1990), New Perspectives Coordinator for the Forest Service defines biological diversity as:

> The variety of life in an area, including all the processes of life. Conservation of biodiversity includes programs to conserve endangered species, to restore and protect all kinds of biological communities, and to manage populations of species desired for sustainable commercial, recreational, and subsistence uses.

To maintain biological diversity we need to maintain all the existing habitats in sizes and spacing that meet the needs of all the associated species which, according to Salwasser means:

> We need to not only provide habitat areas but provide for the exchange of genetic material. We need to maintain both horizontal and vertical diversity within the forest. We need to assure that all important structural characteristics are maintained, both known and unknown. This includes the large standing dead trees (snags), downed logs (both on the uplands and within the riparian/aquatic areas) and mature/old-growth habitats.
>
> We need to assure that all processes are functioning; decay must exist for nutrients to recycle (we must realize that death in the forest is natural and actually essential for the continued health of the forest).
>
> Water must percolate through healthy soil to recharge aquifers, springs, and streams (puddled up water on compacted soils will not accomplish this), and our precious soil resource must remain to produce all these resources for future generations.

We must not trade off many resources and their benefits for a few, and we must not make the mistake of thinking that technology and our knowledge of forest processes (no matter how much we think we know) are

going to change the existing situation is a short period of time. If nothing else, we should have learned from our past that we do not have all the answers, do not know all the results of our actions, but we know we must live with them and must continually change our views of forest management as we learn about our forest systems. Forest management, all forest management, is a little bit science and one heck of a lot of art.

Dick Pedersen, Wildlife/Silviculture Program Manager, Region 6, Forest Service
John Day, April 29, 1991

Wildlife is a product of vegetation most commonly referred to as "habitat." But, just identifying vegetation or referring to habitat as the base system supporting wildlife doesn't describe the component parts that are important to wildlife in general or a wildlife species in particular.

Wildlife of the Blue Mountains, like wildlife species in all other parts of the world, co-evolved with the vegetation and the environmental elements controlling the vegetation. Over the past 100 years, society has been utilizing the vegetation of the Blue Mountains based upon technology and economics of the period. The most significant [management or utilization] treatments have been forest harvest based upon removal of select tree species for utilization, prevention of wildfire, and domestic herbivores use of the range resource. None of these decisions, or management systems, were "bad" for that time period. Technology regarding forest systems and the interaction between various management treatments were nonexistent. It has been within the past two decades that enough knowledge has been compiled to demonstrate that Blue Mountain forests are a "system," controlled by the interactions of many on-going natural processes that produce healthy, stable vegetative communities.

What we see today is the result of decisions made over 50 years ago to utilize forest resources. As I said previously, these were not "bad" decisions, because they were based upon existing knowledge and existing need. Today we have more information, which if applied will eventually provide forest resources consistent with the forces controlling the vegetation. This is not to say that insect outbreaks, wildfire, and other factors will not occur, for they certainly will. The difference between now and managed forests of the future will be in the scope of effect, duration, and area affected.

Wildlife are an important resource from the perspective that all species play a role in maintaining a healthy forest system and they are an important part of our culture. Wildlife which society uses for food, fiber, and recreation provide an important link to the economic health of many eastern Oregon communities. It is important that we restore a healthy forest system to the Blue Mountains for this reason but also, perhaps more importantly, because society needs a stable source of forest products. The health and thrift of our Blue Mountains forests is the mirror image of the health and thrift of our society.

Concerns have been put forth that as the Blue Mountains are "rebuilt" to better reflect the conditions sustaining a healthy forest system, some wildlife species will cease to exist. In my opinion, this is not reality. Wildlife species will change in two ways, as the forests are restored to reflect vegetative composition and distribution better able to survive the permutations of insects, drought, and fire. Some species will decline in abundance and distribution and others will increase in both aspects. For example, the lodgepole, spruce, and true fir components of the forest should eventually reflect a stronger yellow pine composition. Those wildlife species which are prevalent in current lodgepole, spruce, and true fir stands may potentially decline in dominance and distribution. Species associated with a dominant yellow pine composition may increase.

Wildlife species of current concern to the public are those species used for food, fiber and recreation; deer, elk and forest grouse. Restoring health to the Blue Mountains will not be a process that occurs quickly. In the interim period, the deer species will persist with numbers or density not a reflection of habitat conditions but a reflection of current trends of society towards sport hunting and the demands placed upon the forest resources for associated uses. The habitat conditions which produce the deer species are adequately known. Management conditions to provide that resource is feasible and attainable.

Ron Bartels, Oregon Dept. of Fish & Wildlife
Burns, April 30, 1991

I have been asked to share concerns about Forest Health and how this emerging issue could affect the fish and wildlife resources that are dependent on the forest.

First, I would like to say that it is truly too early to have specific concerns about possible impacts to wildlife that could result because of declining vigor in the forest ecosystems.

The present circumstances are a result of fire suppression and selective harvest on a somewhat random basis beginning in the early 1900's and intensifying after World War II to the 1970's. It became obvious that the forests had limits. Forest Plans were developed to identify the alternatives for management.

The alternatives contained a variety of outputs for products and uses. The selected alternatives in most cases did not totally satisfy anyone but did display a balanced approach to resource management.

In the Record of Decision and implementation documents of Forest Plans, there are minimum standards for wildlife habitats and water quality. Our concern now is, how will proposed responses to the forest health issue and related actions impact or alter the Forest Plan implementation standards for wildlife habitats?

Forest Plans describe a "desired future condition." How will proposals to salvage material and convert from fir to open pine stands change the desired future condition described in Forest Plans? We are naturally concerned about the answer but must wait for more information on what the strategy is for dealing with the issue before we can evaluate the possible impacts to wildlife.

I believe that much of the abundance of wildlife enjoyed today in the Blue Mountains is a result of the fire suppression and forest management practices during the mid-1900's. The increase in cover and thermal protection certainly improved habitat for the large ungulates, especially elk. Hiding cover increased the animals' ability to provide recreation by spreading harvest over more days for more people. I see the conversion of existing stands of mixed conifers to pine with open understory as a possible concern.

We have experienced similar situations in the past. An example is the Douglas-fir Tussock moth outbreak in the early 1970's. Although this outbreak was most evident on forests to the north of us, the principles are the same. The feeling was that forests were being devastated. Thousands of pounds of DDT were sprayed on public and private forests at a time when entomologists had strong evidence that natural controls were rapidly stopping the moth's damage. We would hope that this kind of reaction will not be repeated. It is paramount that logic and reason prevail as we consider forest health in our management decisions.

It is very early in the process to have more specific concerns. The Oregon Department of Fish and Wildlife will be a part of the process as it evolves. We will be more specific as we get more information. It is our responsibility, by statute, to be advocates for wildlife in Oregon. We intend to fulfill our responsibility.

Al Scott, Wildlife Biologist, Heppner District
Heppner, May 1, 1991

I have been asked to address this issue from the wildlife perspective. The landscape and ecosystem diversity are important to wildlife. They look different now than they did in the past. In considering the forest health issue, we must consider rangelands and all ecosystems.

Reintroduction of fire will change the populations of wildlife. Some will benefit and some will not. They always fluctuate.

A healthy forest has some mortality from diseases and mistletoe. In managing for forest health, we won't control everything.

We are developing 'desired future condition' (DFC) for projects. Managing for DFC may have short-term detriments, and we will have to analyze their impacts.

[from notes]

Lew Wallenmeyer, Wildlife Biologist, North Fork John Day Ranger District
Pendleton, May 6, 1991

Current and potential forest health conditions have large implications for wildlife in the Blue Mountains. Fire suppression has allowed large, dense stands of Douglas-fir and grand fir to develop in many areas where such stands of timber would not, with natural fire events, remain for long periods or would not become as extensive. Selective timber harvest favoring removal of larger ponderosa pine and leaving Douglas-fir and grand fir has also led to current forest stand compositions in many areas. In short, many of the areas of the Blue Mountains have been managed to this unnatural condition. Returning to a more natural or ecologically balanced forest and its associated wildlife habitats is not a simple task, in light of the extensive areas currently under intensive management.

Several timbered areas with heavy Douglas-fir and grand fir components are currently under attack by insects and diseases. Stands that are heavily hit by insect damage are often stands that have been relied upon to provide patches of wildlife cover until areas around them, already clearcut or harvested, return to a cover-providing condition. In these situations, the insect-killed trees provide the only cover and solitude for deer, elk, and other wildlife. Additionally, these newly dead trees provide us with an opportunity to maintain habitat for cavity-nesting and dead-tree-dependent wildlife, often in areas where inadequate numbers of wildlife trees have been left in the past. The benefits of dead trees to the forest ecosystem are numerous--they provide not only homes for wildlife while standing, but continue to do so after falling. They contribute to long-term soil productivity and often aid in retaining soil moisture. Dead trees fall into streams, and the large wood is an important fish habitat component of the streams and provides structural stability to streambanks. Forest management standards and guidelines provide thresholds for timber harvest in order to provide quantity and spatial distribution of cover and to limit impacts to watersheds and water quality. We must acknowledge all of the roles that these timber stands play. Too often, we cannot think of these stands as "just another stand of dead and dying timber."

Many of the cavity-nesting birds that inhabit dead trees are the same species that are insectivorous predators that provide protection to live trees by eating insects. We must recognize this vital role and maintain elevated dead tree habitat. It is very likely that insectivorous birds can be our best allies in returning to and maintaining healthy forests.

Access management is another extremely important consideration that we must manage with caution in this time of forest health management. In order to provide necessary solitude and adequate buck and bull escapement for good deer and elk herd dynamics, road management will be one of the few variables of habitat effectiveness that we will be able to change as dead and dying stands of timber fall out of a cover-providing condition. Deer and elk will undoubtedly become more vulnerable to hunting pressure and disturbance as stand conditions change. Increased salvage of dead timber will accelerate the need for access management in many locations.

In summary, I believe that we must proceed with caution as we improve the forest health conditions of the Blue Mountains. We need to look carefully at what conditions we have and what we desire to have in the future. We must also look carefully at the past to see what was ecologically sustainable.

Rod Johnson, Wildlife Biologist, Walla Walla Ranger District
Walla Walla, June 4, 1991

Due in large part to the region's terrain, climate, range in elevation, variety of soils, and roles of past wildfire, the northern Blue Mountains contain a very diverse array of forest ecosystems. They range from lower elevation mixed conifer types to wildfire-generated lodgepole and western larch forest to sub-alpine fir forest. When you multiply this diverse forest tree species character by the effects of past silvicultural activity and wildfire on successional stages you come up with a very diverse array of forest ecosystems.

It is estimated there are over 300 species of vertebrate wildlife on the lands within the boundary of the Umatilla National Forest. This includes at least:

7 species of amphibians....14 species of reptile....29 species of fish
73 species of mammal....and 201 species of birds.

While not all of these species depend wholly, or partially, on stands of coniferous forest, it is safe to say that most do either directly or indirectly. The point I make is that fish and wildlife resources present in the northern Blue Mountains are strongly linked (directly and indirectly) to coniferous forests.

The "health" of forest communities largely determines the "health" of the many populations of fish and wildlife who depend on them. When I say "health" of a coniferous forest community, I often do mean exactly the same thing as a forester. Webster defines the word "health" with such words as sound, physical well-being, freedom from defect or disease, etc.

From the fish and wildlife habitat standpoint, some level of "unhealthy" forest is desirable in many cases--necessary if many of the fish and wildlife species now present in the forest are to remain as viable biological components of the many coniferous forest ecosystems. There are several examples of these: snags (i.e. standing dead trees) which are necessary to maintain viable populations of primary excavating woodpeckers, as well as the many other species of wildlife dependent on these cavities; some level of old-growth forest (old trees with relatively high levels of defective and dead trees); and an on-going source of dead wood in fish-bearing streams.

On the other hand, from the fish and wildlife habitat standpoint, an extremely "unhealthy" forest is also undesirable. Elk and deer habitat values decline as vertical and horizontal cover declines. Physical access to habitat is restricted as large numbers of down dead trees accumulate. Habitat declines for a large number of wildlife species who depend directly and indirectly on a dense coniferous forest canopy. Fish passage in streams can become blocked by excessive buildups of downed tree debris. There are undoubtedly many more, not to mention the potential for catastrophic large wildfire due to large accumulations of dead tree debris.

So, it comes down to a question of "balance." From a fish and wildlife habitat standpoint we don't want a completely "healthy" forest anymore than we want a completely "unhealthy" forest. From the fish and wildlife habitat standpoint, some areas of intensive bug and/or disease problems can be acceptable, but as these areas increase in size and number, there comes a time! In all honesty, few people can agree on just when we reach this point where action has to be taken to protect the many things we all look to the National Forest to provide.

In my mind, the "answers" (plural) to the issue of forest health fall into short-term "stop gap" and long-term solution categories. As you have heard, forest insect and disease is a problem on the north half of the Umatilla Forest but not what I would call "serious." BUT, there is no doubt in my mind that the potential for a serious

problem is with us. I think the time is here where serious thought has to be given to how we manage our National Forest ecosystems. Not just for fish and wildlife values. Not just for timber values.

I personally feel the "do nothing and hope it goes away" approach is no more "correct" than is the "do it all now" approach. In my mind, the time is here for us all to give serious thought to such questions as:

"How (not if, but how) do we practice silviculture to make the forests more resistant to forest pests?

Should prescribed fire play a more dominant role in forest management?

Will this "new" forest provide the many resource values (wood, recreation, etc.) our society wants?

This public forum is an attempt to obtain your thoughts on these, any many other, important questions. The National Forests belong to all of us as it will belong to the generations to follow.

One of the sayings Dr. Jack Ward Thomas (PNW Forestry and Range Sciences Lab in La Grande, past President of the International Wildlife Society and of spotted owl fame) often says is, "There is no such thing as a free lunch." This applies extremely well to the issue we are here talking about tonight. ANY answer to the issue of forest health will result in change to some, if not most, of the things about the northern Blue Mountains we now hold near and dear.

EVEN A DECISION TO DO NOTHING!

The mountains as we know them today will continue to change and evolve no matter what we mere mortals do.

THERE WILL BE NO FREE LUNCH!

State Forestry Organizations and Private Landowners

Paul Joseph, Oregon Dept. of Forestry
La Grande, April 22, 1991
Enterprise, April 23, 1991
Baker City, April 24, 1991
Pendleton, May 6, 1991

Tim Keith, Oregon Dept. of Forestry
John Day, April 29, 1991
Burns, April 30, 1991
Heppner, May 1, 1991

The Oregon Department of Forestry (ODF) concurs with the U.S. Forest Service findings on the health of the forests in the Blue Mountains. Our Department's draft Forest Health Action Plan, for State and private lands, identified many of the same problems/issues as did the Blue Mountains Forest Health Report. The ODF is now beginning the process of consolidating their proposed forest health planned strategies with those of the USFS.

Past management practices of selective harvesting of high value trees and fire exclusion have caused, directly or indirectly, many of the forest health problems we are now experiencing. Many of the management practices conducted on private lands are economically driven. A forest can withstand the removal of the best and highest-value trees for only so long before that stand becomes an insect- or disease-infected problem. Many of these high risk forest stands are so badly damaged from insects and diseases that landowners must forego their long range goals and objectives for that stand and salvage log. These harvest operations then leave the stands practically decimated.

An opportunity exists on these decimated stands to literally start over with the establishment and maintenance of pest-resistant forest species best suited for that site. To take advantage of this opportunity, landowners must be able to: a) obtain timely and accurate professional assistance (including availability of tree seedlings) in order to successfully restore their forestland; and b) invest significant capital in order to start over on their forest stand. This assistance and sufficient financial resources are often not available to small landowners.

Many of these landowners are faced with a difficult decision. Visualize a stand of Douglas-fir and true fir that is nearly merchantable, growing on a predominately pine site. Insects have caused mortality, topkill and growth loss. The Douglas-fir and true fir understory have been completely destroyed by the repeated defoliator insect attacks. The landowner realizes he/she should replant pine/larch but if the damaged stand that now exists is removed and the area replanted, he/she will never see an economic return on the investment. On the other hand, if the landowner can preserve the damaged stand until it reaches a merchantable size, perhaps he/she will see some return.

Long-term solutions to these problems must be implemented in a manner that is timely and will also meet the landowner's short- and long-term goals for his/her property. It is conceivable that each landowner may have different management objectives, therefore blanket recommendations are not possible. Recognizing the existence of these various objectives and the limitations of capital and professional assistance are necessary ingredients in any long-term solution.

Bob Klicker, Private forester
Walla Walla, June 4, 1991

I have watched and participated in forest health on our private land and the National Forest land since 1957 during the tussock moth outbreak.

I watched, for more than 25 years, how the Forest Service was able to protect the forest from serious insect infestations and from serious wild fires. They were able to operate the forest in an educated, professional, common sense manner and without extreme costs. The Forest Service professionals kept a healthy forest with all other parts of the forest in excellent condition.

In the early 1980's the lawyers, with their laws, and the people who understand the forest out of a book, with no real life experience, have taken over the forests from the Forest Service and have set up the forests for complete loss to both insects and wild fire.

The 6 to 8 million-acre spruce budworm disaster in eastern Oregon and Washington is a prime example--almost a total loss with no economic salvage and a scenic disaster.

Fuel loads for wild fire from grass, brush, and dead timber have created a potentially explosive, uncontrollable fire situation that could rate with Yellowstone Park on a smaller scale.

In the last 4 years, I have visited with the top Forest Service personnel from Washington, D.C. to Walla Walla. It is common knowledge that the Forest Service professionals know how to maintain a healthy forest. It is unfortunate that the public in the Northwest will have to pay for the economic and scenic disaster created by the uninformed political forces. They have presented the laws which control the Forest Service completely. The hands of the Forest Service are tied and, therefore, the fate of our forest health is now a political football.

It is no longer decided by professionals what is best for the health of our forests and what is best for our local Northwest people.

For 50 years I have watched strawberry growers who have tried to raise berries by learning out of the book. They are not successful and have gone out of business.

The uninformed eastern public will cause our western forests to be lost to insects and wild fire unless the experienced Forest Service professionals are allowed to make the correct decision.

SUMMARY OF QUESTIONS AND ANSWERS

There were over 100 questions generated in the eight public meetings. This summary has grouped them by subject and combined them where possible to prevent redundancy. The responses shown here are summaries of the actual responses given during the public meetings. No attempt has been made to designate who responded or from what perspective the response was given. The responses shown here are not considered the "final", "correct", "appropriate", "complete", or "consensus" answer. They are provided as a means of sharing the information discussed at the forums through a written medium.

Biodiversity and Silviculture

What is biodiversity?

The variety of life and its processes.

What is optimum scale in natural patterns?

Scale refers to sizes of patches in landscape, vegetation, and disturbance areas. Fragmentation refers to breaking up the large patches into smaller pieces. The ideal would be for no options in vegetation and wildlife habitat to be eliminated. The size of 'patches' needed to maintain biodiversity varies a great deal depending on the specific species or ecosystems you are considering. Sub-watersheds typically managed are approximately 10,000 acres. But that's not large enough for some species like the spotted owl. So we do need some very large set-aside areas, but there are no standard numbers as to how large is large enough.

One way of minimizing the effect of fragmentation is to leave connecting corridors between fragments or "islands." We need to plan to leave connectivity in the cycles of management we employ.

What are silvicultural techniques?

Culturing of trees. Techniques include fertilizing and harvest types--sanitation, regeneration, salvage, thinning, uneven-aged stands.

How long does it take a tree at 5000 ft. elevation to grow big enough to cut?

It depends on species and purpose for which they are cut. Probably 70-100 years for most Blue Mt. sites from time of planting. Add another 15 to 20 years for natural regeneration to begin the process. For thermal cover it would take 120-160 years, and for the visual park-like effect takes 200 or more years.

What is old growth?

Old growth includes all sizes of trees, dead and down material, understory variety, and a variety of animals. It is a complex system. Old growth is also self-perpetuating.

Do we have an existing reliable source of seed (genetic legacy) for seral species? (ponderosa pine and larch?)

Yes, we have good supplies of seed and seed trees. Our genetic program consists of protecting chosen trees as seed sources. They are selected for good growth, small limbs, and vigor at different elevations and of different species. Also, when thinning, we leave the best trees.

Pine seed is no problem, but larch seed is in short supply.

Is the present state of the forest unique, or did similar conditions occur in the past?

Today's increase in fir couldn't have happened naturally. This has contributed to epidemic insect and disease situations.

Insects and Disease

Is there an estimate of how many acres are damaged by insects and disease?

Aerial survey estimates show insect damage for 1989-90 in 53% of the canopy cover in 5.3 million acres of national forest land. These estimates are likely low. To get a very accurate estimate requires on-the-ground surveys. That is also the only way to identify disease damage.

Damage varies a lot by tree species also. Disease-caused damage affects on the average about 25% by basal area of grand fir and less than 5% of ponderosa pine. Insect damage is in addition to this.

Aerial survey data is available for 1988-90.

Drought is a factor in insect outbreaks. What would be the result of 10 years of normal precipitation?

Because outbreaks are the result of many factors it is hard to single out the effect of precipitation. I would guess that normal precipitation would result in less bark beetle-caused damage. Defoliators may not be affected. Stand conditions which have contributed to development of outbreaks would continue to deteriorate without treatment.

At the base of the Elkhorns, budworms seem to have moved on. Are these trees now more resistant to attack?

No. There's no significant change in the circumstances so the tree stand is not more resistant.

What is the usefulness of trees between the time of infection (with diseases) and time of disintegration?

It may be 15-20 years before advanced decay occurs. Forty feet of the tree are affected (20 ft above and 20 ft below the wound or conk). Even tho saw-log quality is affected, these trees are useful for wildlife cover, nesting, hog fuel, and chips. They have a long life span even tho infected.

Is there a difference between pesticides and insecticides? If you use pesticides would you also kill bees?

Insecticides are chemicals that kill insects. Pesticides kill pests--a broader definition. Some chemicals kill a broad range and others are more specific. For beneficial insects and birds it is best to avoid sprays if possible.

What are other methods for dealing with pests?

Pesticides are short-term solutions. If the forests are managed for a healthier state, there is less need for spraying. Outbreaks are cyclical and will eventually crash on their own. The idea is to minimize the amplitude of the population cycles to avoid the damage caused by major outbreaks.

There are little harmful effects from B.T. (*Bacillus thuringiensis*--a bacterium specific to certain species of *Lepidoptera*).

[Introduction of predators such as host-specific parasites has also been used successfully. (Ed. note)]

Fire is one management tool, but we need to look at smoke management guidelines to see where that leads. Don't eliminate pesticides entirely, but make careful use of them.

Cultural tools include pre-commercial thinning and control of stocking level [so that the trees aren't so close and spread of insects is hindered (Ed. note)].

Fire

How does a planned fire differ from an unplanned one?

The suppression of fires and evolution toward unhealthy forests have led to a big buildup of fuels. When wildfires start, they are going to burn hotter and over larger areas than in the forests before fire suppression. So when wildfires start we still need to get there quickly and do as much as we can to contain them. There is also proximity of private lands to consider.

We can do some things to lessen the severity of wildfires--remove fuel, assess risks, and be prepared. Also small, controlled burns can be used to lessen effects of wildfire. Private landowners play it safe by not using prescribed burns because they can't afford the liability should it escape. There needs to be a way to share that risk so that private landowners can make use of preventive burns.

If fire was historically here, why have we allowed agencies to establish standards that don't account for it?

We followed the lead of German foresters to whom fire was bad. We have come to see that it was a mistake. Also, we can't go back to the situation when fires were unrestrained. We have more people and developments than before.

Can you ignore fuel load and still pay attention to biodiversity?

There are some alternatives to disposing of high fuel loads. But every action has consequences, and we don't fully understand all of them. One thing we can do is chip debris on site.

How important are the materials as long-term nutrients that burn up in fires?

We used to have fires every 15-30 years. Some research suggests that regrowth may be faster without the fires because of uninterrupted nutrient cycling and greater capitals of nutrients. Therefore,fires may not be the best--other methods may be better.

What about smoke management? Is fire an acceptable management tool given EPA standards?

We can lessen the smoke problem by timing burns during good smoke dispersal conditions and not during inversions, and by coordinating burns so that they don't all burn at once. Reintroduction of fire needs to be gradual. It is also a matter of public education regarding fire's historic role in the balance of nature. We can demonstrate burn management and results in areas for the public to see. We need to change the "Smokey the Bear" image and show cool burns and controlled fires as good.

Some alternatives are machine mulching of fuels, incinerators, and salvage logging. These are more expensive and of limited availability. Managed burns can be used in combination with silviculture techniques.

What are private industries' plans to meet current direction on burning?

Some of the residual fuels may be removed and used for chips, but the economic feasibility varies a great deal with market fluctuations. Closures of harvest on the westside due to spotted owl controversy may increase demand for chips from the eastside.

Can we mimic natural fire effects?

We can't manage a burn over a large area in a small amount of time. We manage burns in a patchwork style. Silviculture methods are more selective than fire and should be the primary tool.

In the event of a large catastrophic fire, how adequate is our seed supply and what would be the management plan?

Pine seed is no problem, but larch is in short supply. Some burns would be allowed to regenerate naturally from trees at the edge because there probably would not be enough seed available. There is no simple answer. We would develop a strategy according to existing and desired future condition.

What effect does burning have on habitat effectiveness index (HEI) for big game?

Fire would increase forage quality [at least in the short term because of shock to grasses and increased availability of nitrogen (Ed. note)] but could decrease cover.

What practices have lead to degradation of the forest health?

Fire suppression, over-cutting, higrading [cutting the most desirable trees and leaving the culls (Ed. note)], over-grazing. The Blue Mt. sites are already limited in temperature, water, and nutrients for growing forests. Our management has made it worse by nutrient removal, soil compaction, and by not managing species composition.

How can you maintain wildlife snags and cover when re-introducing fire?

It is possible that fire will destroy too much. Most areas don't meet minimal standards [for snags] now. The Oregon Department of Fish and Wildlife should be involved in developing strategy.

Are there increased fire hazards with leaving dead and dying materials?

Dead and down materials are a necessary part of a healthy forest. I do not know just how much greater risk they cause.

Grazing

Does cattle grazing help eliminate the fuel load?

Yes, somewhat. Cattle are selective where they graze, i.e. they avoid slopes, so it does help in some spots. Productivity in understory after harvest in forests exceeds that of conventional rangelands. We can use that to reduce overgrazing in other areas and allow restoration of overgrazed lands.

What are other effects of grazing?

Grazing can reduce some weeds that cattle find palatable. It can also cause destruction in riparian areas. In the past, overgrazing has also caused damage from too many animals grazing at the wrong time of year. Proper management and timing of grazing can allow for rangeland production to improve.

Why haven't managers told the public that grazing can be a benefit?

It is not always a benefit. It must be managed carefully to avoid water quality problems. Some plants, like crested wheatgrass and bluegrass, benefit from the stimulus of grazing. Others such as bluebunch wheatgrass and Idaho fescue degenerate in vigor. Some areas are not capable of being grazed because of a history of poor sheep grazing management. Correct management and time will improve grazing results and restore public trust in management professionals. Some areas will not recover for several hundred years.

Will grazing stay at the same levels?

The Forest Service (FS) gets its orders from outside the control of FS managers. What the FS does can depend on what it hears from the public. Grazing levels should be determined by plans to reach desired condition of forest/range rather than being determined independently.

Which were here first, cows or elk?

Elk. Also elk grazing is protected in treaties with the Indians.

Is wildlife grazing considered part of the cycle?

Yes, wildlife grazing is part of the cycle. Elk and deer rarely cause whole range problems, but only some specific area problems.

Wildlife are major determinants of the successional pathways in forests. That is, after a fire or harvest they eat small shrubs and prevent them from growing to maturity and thus change the successional path.

Wildlife

How does the scheme of changing back to pine and larch forests affect big game?

It could reduce hiding and thermal cover but increase forage quality. Elk do not prefer open pine/grass for forage but they will adapt. Deer would be more affected than elk because elk make use of a wider variety of habitats and are less affected by severe weather. Changing the forest makeup doesn't mean a complete disappearance of firs. We would still have some mixed conifer stands and the associated plant communities. We may have to make some other adjustments in the number of animals and people (hunters) the forests can support. Silviculture could provide some solutions to the cover needs.

The separate agencies that manage the wildlife and the habitat need to work more closely together, and work with the public.

What is the thermal cover value of dead trees vs. green trees?

Not nearly as good.

What are the wildlife populations now and where are they going?

See the PNW publication Wildlife Habitats in Managed Forests: the Blue Mountains of Oregon and Washington, (1979 Agric. Handb. No. 553, Washington, D.C.: U.S. Department of Agriculture by Jack Ward Thomas, ed.) for baseline data. Elk were at management level in 1982 index of 100. They are now at 110.

Deer will decrease dramatically if cover is removed. Deer population will move to the lower country.

Why is there a fear of pine and larch coming back if there was plenty of wildlife before?

Good question.

Are we at carrying capacity or state management objectives for deer and elk?

We are at or near the state objectives. We could be above the carrying capacity for elk and that can make for high resource damage off forest.

Elaborate on baseline number of some species, and is this information used in forest plans? Can we continue hunting cougar and sustain the population? How can you use pine martin as an indicator species when there are so few of them?

It is difficult to use pine martin. It is used because we were told all the forests would use it as an indicator species for high elevation old-growth. I don't really know a better one. We use their photos and tracks, but it is time consuming and expensive. We don't use actual population counts, but estimates based on samples. We compare the changes relative to a base level sample estimate. We also monitor the habitat.

Such information is used in forest plans. Managing animals is done by the State. Ideally more of the workforce will be shifted from commodity management to habitat improvement.

What research has been done on animals that come back in a destroyed plot of land--either from fire or insect?

You replace the entire complex of animals. Some disappear and others invade it. You shift populations. I'm not aware of specific research.

How can you advocate high cut levels when [animal] species are in decline?

I don't advocate a high cut, but I don't advocate leaving all the dead material either.

We must weigh the value of entering old growth and wilderness vs. letting it go. There is a clause in all sale contracts to protect endangered species.

Water

What is the effect of precommercial thinning on streams?

Too much tree removal can cause loss of shade and resulting increase in stream temperature which is unhealthy for fish. State law regulates where thinning can occur in riparian zones. Forest Service precommercial thinning plans allow for buffering along streams.

What is the effect of understory on water quality?

Vegetation will slow the movement of water into the stream. There may be an increase in peak streamflow and in baseflow, and an increase in sediments.

What percent of total water comes from condensation on large trees in Eastern Oregon? (30% in Western Oregon)

Less than 5% from dew formation. More important factor is snow pack management. We use snow pack to determine water levels and drought conditions for the following year.

What is the condition of local watersheds in relation to anadromous fish habitat?

National Forest data isn't there for baseline data to quantify habitat changes. In general, prior to dams the water was colder and there were 12-17 million anadromous fish. Now there are 2.5 million. The system does poorly in producing salmon and steelhead.

How do Native Americans manage wise use of land, water, and fish?

At the time of the treaty (1855) there was an abundance of diversity. Now they work with federal and state resource managers to apply scientific methods in an attempt to restore that diversity. Management is similar to adjacent lands.

Salvage

What is being done to salvage the dead and dying timber?

On the Malheur NF approximately 50 million board feet (MMBF) are being harvested to salvage dead and dying timber. On the Wallowa-Whitman 80 MMBF is being salvaged. On the Umatilla less than half of the Forest can be cut at all, and on the remaining portion a wide variety of cutting intensities is allowed. Maybe less than one fourth of it will be salvaged. It takes time to get the appropriate approvals to salvage, and there are many restrictions.

Salvage of dead timber does not get at the cause. Salvage should be done only if it contributes to the forest returning to a healthy state.

How long does it take to plan a salvage sale?

Four to eight months. Some special cases longer.

What is the reaction to switching from board feet target to measuring acres treated to the desired future condition, if that is a large number in the short term?

You don't always have to log to get to desired future condition. Options are fire, cut some, plant.

What happens in wilderness areas that we are not allowed to touch when there is a bug infestation or root rot or fire?

[The Regional Forester can approve control projects in wilderness if there is an immediate threat to resources outside the boundary. The policy is to allow insects and diseases "as nearly as possible [to play] their natural ecological role within wilderness." (Ed. note)]

Miscellaneous

It seems to still be an issue of 'tree health' not 'forest health'. What safeguards will be taken to protect the other resources? What are the silvicultural prescriptions that take into account soil/watershed/fish/wildlife?

Silviculture has changed. Soil compaction and displacement are considered. Harvests require limited vehicle use and designated skid trails. Also riparian buffers are required.

There is some value in leaving some dead and down for diversity rather than removing all.

We also need to look at the watershed and its restoration as part of forest health. Also, replant near riparian zones.

How can we get biodiversity in steep mountain clearcut areas?

We should have some assurance before cutting that the requirements for plant regrowth and succession are present.

Is there much emphasis being placed on "selective genetic breeding" to improve health of trees during reforestation?

There is a tree improvement program. It is a long process involving cones from trees with qualities desirable for lumber--clear, straight trees. Tree improvement needs to be done for other goals also.

There is no silviculturist specializing in research in the Blue Mountains. We need a silviculturist at the La Grande PNW lab. There is a lack of knowledge.

Why haven't minerals been addressed?

They are considered in planning. Mining claims bring up questions of long-term access, and closures. This is being evaluated. Areas that have been mined are being leached and damaged.

Economics

How does community, social, and economic health fit into the picture?

It is an integral part of the whole picture. Stable communities depend on sustainable products. They cannot be sustainable if the forest is not healthy. Once the forests are healthy they will contribute to healthy communities. We need to recognize what runs our economy and try to maintain balance.

In Morrow County, the County government receives three-fourths of the County share of timber receipts. The other one-fourth of receipts from timber sales go to schools. It is apportioned according to the number of students.

How are we preserving the wood products industries and their way of life?

Life isn't status quo. We must change gradually now or we go whole hog and then have an abrupt change. We will manage better if we start the transition now.

We can look to the legislature to fund retraining.

There are some things we can do in the relative near-term to increase forest productivity of all resources.

How do severance and harvest taxes work? Is it charged on logs cut for silvicultural reasons?

[Harvest tax is paid on timber cut on public and private lands by the board foot. The rate changes frequently. The receipts go to fund the Forest Practices Act (funds State foresters), university forestry research, and State fire control.

Timber severance tax is paid at the rate of 5% of the standing value of timber harvested from private land only. The money is distributed by the State to the counties where it originated to offset local taxes.

These taxes would be paid on any commercial thinning or select cut, but precommercial thinning by definition does not have commercial value, and thus is not taxed.

These are not to be confused with timber receipts which are also distributed locally. Twenty-five percent of Federal Forest Service timber receipts, and fifty percent of Bureau of Land Management timber receipts are returned to county road departments and school districts where the receipts originated. (Ed. note)]

What are some economic alternatives for counties?

Diversification, i.e. tourism. Tourism is seasonal, however. Secondary wood products manufacturing, i.e. particle board.

User fees in forests for recreation, hunting, fishing. Improved fisheries have high potential for increased revenues.

Suggestion from audience--Turn public land over to a private concern to administer for fees.

Can you project how declining forest revenues will affect Morrow County for the next 10 years?

There are many factors so it's hard to say. There are some sales that may not be cut. Or in an attempt to salvage as insects increase, there may be a short-term increase in receipts. A catastrophic burn could decrease timber receipts.

If we cease cutting timber, how would we generate any revenue from the forest?

Recreation--we may have to pay entry fees for any forest use including wildlife viewing.

Cooperation

If State and Federal agencies haven't been able to maintain forest health, how can they help private landowners?

We are learning and must take advantage of hindsight. The Blue Mt. NRI is trying to help us all work together and apply what we know.

What can we do to stop fire, insects, and disease from spreading from public land to private land?

The Forest Service, state, and private individuals work together to stop fires. Boise Cascade and the Forest Service are working together in spraying.

Plants under stress are more susceptible to fire, insects, and disease. Private landowners could take steps to relieve stress.

How much communication and co-management between agencies has been done concerning all natural resources and economics?

There has been a lot of cooperation between agencies--particularly the Forest Service and Oregon Department of Fish and Wildlife--but not on every subject. There has been increasing communication between agencies and the public. There needs to be more cooperation, especially on water issues. The Columbia River Basin Project is an example of communication among a host of agencies and seems to be developing well. The Blue Mt. NRI also aids this communication and cooperative process. We need to find our common ground rather than each managing similar (or even shared) resources for different objectives.

Do you think mainstream major environmental organizations will go along with what the Blue Mt. NRI is doing?

Large organizations react in proportion to perceived threat on a resource they value. If actions are presented in a non-biased fashion there should be no problem.

If there is a re-direction in land management agencies, is there one in industry?

Industry is adjusting to using smaller logs already. We are afraid of going to strictly fir salvage harvests with no pine allowed.

How can we bridge the gulf between what Blue Mt. NRI suggests and forests plans?

Forest plans need to be dynamic and incorporate new information from research.

How can Blue Mt. NRI avoid controversy if there is a reduction in harvest?

Management needs to establish a decision-making process that includes trade-offs and compromise of all groups. The management needs to be responsive to the changing values in society. We will need to make changes in the forest plan to allow for improved forest health.

If this group came up with a good land stewardship decision, why not apply it to all lands?

[It would be a matter of education and demonstration to encourage all landowners to apply the best methods known. This is the purpose of Blue Mt. NRI. However, there is no final best answer because we

continue to discover more information over time. For this reason it is prudent to have diversity--some wilderness and some intensive management areas. (Ed. note)]

Do you believe the people here can solve this problem, and if not, who else needs to be involved?

We need more participation from other Native Americans like the Nez Perce and Warm Springs. More private landowners, citizens groups and state departments of fish and wildlife.

We need more research into problems and a closer look at healthy forests and monitoring of management that is done.

We need involvement of Washington, D.C. politicians for funding and to change regulations that have managers hog-tied.

The Blue Mt. NRI is important in bringing all these groups together.

Research

What research is lacking to make decisions?

Biodiversity has not been clearly defined. We need more information to even answer some basic questions of what species and ecosystems are 'natural' in the area and what is the desired state.

Basics about what is needed for long-term productivity of sites are not fully understood.

We know some about the role of fire, but much is unknown. We need more and better monitoring of management activities. We need to implement what we do know already from research.

Is global warming a problem, and what are we doing about it?

Comment from audience--We need to increase plant growth to compensate for oxygen lost in burning.

The President (of the United States) has assigned the Forest Service to be the lead agency to research global warming. We cooperate with international agencies to research the problem.

Are there enough scientists in the US Forest Service?

No, there never seem to be enough. The amount of people are limited by budgets and hiring ceilings.

How much is research information being used now?

That's hard to measure. Logging methods have changed a lot [in response to what we've learned about disturbance effects on habitat, watersheds, and regeneration. Silviculture has also used a lot of information from research. (Ed. note)]

Tribes saw a lack of use of local research in formulating forest plans. One goal of the Blue Mt. NRI is to encourage transfer of research findings to managers in a meaningful vehicle (i.e., demonstration plots rather than publications.)

Many studies are long-term. The Starkey project is in the early stages. Large numbers of people visit the project and are already using what they glean from it.

[Many other examples exist of actual implementation of research results through management actions. (Ed. note)]

Futuring

What is the ideal for the future?

We would look at the big picture and consider the forest as a whole. We would have as much diversity as Mother Nature can provide.

Management would be proactive rather than crisis management. We would have adequate water and stable wildlife populations. We would have information needed to make management decisions based on history, current knowledge, and the communities involved.

What is a healthy forest?

One that is relatively free of insects, provides diverse species habitat, and that can renew itself. A mix of ages and successional stages. One site is not everything, but there are a variety of different sites to provide everything from timber to wilderness.

What would be the volume of timber cut?

We would need to stabilize forests before that could be predicted. Cut should be determined by sustainable yield which varies according to the weather, etc. There will probably need to be a dip in the short term.

How might the tribes define a healthy forest?

Look to the past to define that. The Indians think in a circular, connected way. They look at the forest as a whole and the diversity of resources. Science and management are approaching that type of circular thought. Fisheries are definitely out of whack and need to be improved-- restore riparian areas, decrease water temperature, improve fish habitat.

Solutions

What actions can be taken to promote forest health?

We can consider all resources and the need for biodiversity in choosing silviculture methods. Healthy bird populations help control insects. Consider the nutrient cycle in planning for long-term site productivity. We can encourage plants that improve the nutrient supply. For example, ceanothus is a nitrogen fixer. It has been shown that ponderosa pine grows faster in the presence of ceanothus.

We can manage for a gradual shift to species that better tolerate stressors of fire, drought, and insects by replanting and by silvicultural techniques that encourage those species (ponderosa pine and larch).

We can manage harvests to minimize impacts on soil and riparian areas. We can encourage light, cooler burns that prevent lots of fuel build-up and consequent loss of nutrients in a hot burn.

We can maintain patches of [ecosystem] variety, and dead and down material.

We can manage to protect riparian zones and still allow grazing.

Will clearcuts be used to switch species over to ponderosa pine and larch? If so, how is the size determined?

Clearcuts are a viable option in some cases (Bear Valley). Reaching the desired future condition may require a short-term compromise in cover.

Regulations state that the maximum size of clearcuts is 40 acres. An interdisciplinary team is used to look at all objectives in determining size.

After so many spruce died in Lick Creek area, will the Forest Service be any more concerned about the present situation?

Yes, now we know more about the effects of spruce bark beetle if a similar situation occurs.

What can be done on the Baker City watershed?

According to a 1912 agreement, the Forest Service activities can't detract from water quality. There is no current Forest Service activity, but there is a buildup of fuel. The Wallowa-Whitman National Forest is working with Baker City to evaluate fuel load and develop alternatives. The fuel possibly can be treated with prescription fires and still maintain high water quality. It is a unique opportunity to treat a watershed that has had little management activity to use as a model for other streams.

What is the level of disease on your lands [Kinzua Corp.]? Are you replanting the same species you cut?

Disease is moderate. Ninety-five percent of the trees cut are grand fir and Douglas-fir. We are replanting ponderosa pine.

What is the sustainability of present harvest levels on Boise Cascade land?

No problem. The inventory forester is conservative. We remeasure periodically and adjust the cut to the growth.

What is happening with forest plans?

With the exception of appeals which are being reviewed in the Washington office, implementation plans are proceeding. The monitoring plan has just been completed.

The allowable sale quantity (ASQ) comes from the top down and hasn't been reduced. Hopefully, as a result of local input and current forest inventories, adjustments can be made.

What are wildlife managers doing to prevent wildlife coming off public lands into private lands?

Provide cover, road closures (to lessen disruption of animals on public lands), habitat improvement (prescription burns), fertilize land.

What will be done to treat disease- and insect-infested stands in wilderness and set-aside areas?

We won't see logging, but we can make use of prescription fire to maintain diversity of plant communities. Some fuel may need to be removed (under provisions) prior to prescription fire.

What effect does forest health have on access management (road closures)?

It isn't clear at this point. If a change in road closures is indicated to facilitate reaching desired future condition, then change in policy will be recommended.

How do you propose to solve the situation when every action is appealed?

We'll just have to go through the process.

Comment from audience--Silvicultural methods often need to be timely and appeals negate their value.

How do you address the confrontational attitudes of us vs. them?

There are no enemies out there. We are all trying to do the best we can. We need to involve all of the social spectrum and work together. Us/them thinking gets us in trouble.

The Forest Service is trying hard to get input through open houses, forums, etc. Communication and dialog is very important.

Should the size of timber cut be taken out of the hands of Congress and turned over to forest managers?

The public has a lot of disagreement, and the natural order when there is that much disagreement is that it ends up with a political decision.

What are the plans for State (Oregon) lands?

Only about one-fourth of one percent of the acres are managed (approx. 5000). We see a need to return to ponderosa pine and larch in low elevation sites.

Prognosis

What is the 5-year prognosis for forest health?

If the drought continues the summer looks bleak. Western Spruce Budworm thrives in warm cycles. The cyclic trend is encouraged by the current weather conditions. We could have a longer outbreak.

What are the economic prospects for doing the job [of returning forests to health]? How long will it take?

Needs to be looked at as a medical emergency. Will cost a lot of money over a long time. There will be folks looking for the work if we can get the money to pay for it. There is a need for ground work, research, and monitoring. The responsibility for getting the needed funds is everyone's.

It took decades to get in this shape, and it will take decades to recover.

What is the first step to recovery?

Protect what we have now. Conserve old-growth stands. Salvage, fertilize, and rehabilitate.
Information spread and training.
Develop the knowledge to make good decisions.
Need information from the public regarding trade-offs.

FOLLOW-UP COMMENTS

Forms were made available at the public forums for people who chose to mail in responses and comments. Only two were received and they are printed here with permission of the authors.

Linda Driskill, Grant County Conservationists, John Day

I want to congratulate you on the forest health forum presented in our community. Your first speaker, Charlie Johnson, did a good job at getting across what I see as the main point. This is a very complex issue which we're not going to be able to look at or deal with in the same old ways. I would like to see an ecologist in each district office--any chances?

May I commend the exceptional job done by the moderator and the fact that you chose a woman for this job.

Ted Fremd, Skylar Rickabaugh, John Day

Our number one point is that this process should focus on forest health, as understood by the ecological sciences, over all other matters. Logically, a healthy, diverse ecosystem should be the desired baseline; from that, the economic considerations follow. As stewards of a national resource, your actions must be considered for the long-term benefit of a national populace, not the short-term advantage of a (very) few. We were encouraged that the direction of the BMNRI presentation implied the above.

At this point we are unconvinced that the well-being of the forest has actually been the principal operating directive of several disciplines within the agency, particularly the silvicultural components. This is neither bad, nor unexpected; it is simply time to put economics behind biological science. Well-conceived timber sales, based on scientifically defensible criteria establishing a harvest as being both necessary and appropriate, are a part of the forest prescription, and we recognize that.

APPENDIX

News Articles

The following news articles appeared in local papers following the forums. They are included here to show the coverage that resulted in the news media.

Trial by fire

Woodlands managers call for return to use of nature's effective forestry tool

If Northeast Oregon's forests are to regain their health, a former ruler — the ponderosa pine — must reclaim the throne, and pretender species like the Douglas fir and grand fir must go out in a blaze of glory.

"We need to reintroduce fire in the ecosystem," Charles G. Johnson Jr., an ecologist for the Wallowa-Whitman National Forest, said at a forum on forest health Monday.

Many other forest experts echoed Johnson's remarks.

Low-level fires would allow ponderosa pine again to be the dominant tree species in the region's forests, which would greatly improve forest health.

The ponderosa pine is less susceptible to drought and insect attack than are the Douglas fir or grand fir, which now dominate the area's forests.

Recent drought and insect outbreaks have decimated the forests.

In the past, recurring low-level fires about every seven years had prevented the firs from gaining a toehold on the forest. However, the fir trees began moving in when vigorous fire prevention programs were put into effect a half century ago.

"In the management of the Blue Mountains and the Wallowas, fire has been looked upon as something to be combated, not something that's for the ecological good of the forests," Johnson said.

Monday's forum, at Eastern Oregon State College, was put on by the Blue Mountains Natural Resources Institute.

The importance of scientific study was also emphasized. Bob Messinger, Boise Cascade's northeast region timberlands manager, said greater knowledge would allow the practice of forest management techniques that "enhance mother nature rather than fight it."

Rick George, an environmental biologist for the Confederated Tribes of Umatilla Indians, added that it's critical that the knowledge gained from research be placed in the hands of forest managers.

He said it's also important that yardsticks for forest health be examined. One such indicator may be returning salmon runs. George said if steps are taken to ensure safe dam passage for salmon, many more will return to Northeast Oregon. Many likely won't survive, however, because of high stream temperature and turbidity levels created by poor forest conditions.

"Once we fix the dams, the fish will come back and find that their habitat is out of whack," said George. "They'll come home and find that the bed is not made."

At the conclusion of the forum, panelists were asked to describe the condition in which they would like to see the forests 50 years from now.

Johnson visualized himself flying over the region in an airplane.

"It would be a patchwork quilt that would not be visually unacceptable to anyone," he said. "You wouldn't look out at clear-cut areas or a broad, expansive green canopy. There would be a grand mix of age classes."

Key to forest health seen in management

By RICHARD COCKLE
Correspondent, The Oregonian

LA GRANDE -- Rescuing Eastern Oregon's unraveling forests will require a brand new set of management policies.

"And I think we need to employ fire as the cornerstone of our management," said U.S. Forest Service ecologist Charles Johnson of Baker City.

Johnson was speaking to those attending a forum on forest health. Those at the forum, held at Eastern Oregon State College Monday evening, heard that the management emphasis of the East Side's forests must be shifted from commodities production - lumber and livestock — to an ecosystem emphasis. About 40 people attended.

Johnson was part of a panel that included a private woodlot owner, a timber industry representative and biologists representing the Forest Service, Oregon Department of Forestry, and Confederated tribes of the Umatilla Indian Reservation near Pendleton.

The forum was the first of eight planned across the region by the Blue Mountains Natural Resources Institute. Another is scheduled at 7 p.m. Wednesday at Nendel's Inn in Baker City.

Much of the first session Monday in La Grande outlined the problems afflicting the forests of the Blue Mountains, their causes, and possible remedies.

The speakers agreed that the character of the Blue Mountains' forests have changed dramatically over the past 150 years.

Extensive logging has sharply reduced the once-dominant ponderosa pine. The majestic pines have been replaced by thick stands of fast-growing, less hardy lodgepole, white fir, and spruce -- tree species that are more vulnerable to insects, disease and fire.

Now, weakened by six years of drought, those species are falling victim to insects and disease. And owing to the widespread die-off, coming as it does in the heels of decades of fire suppression by Forest Service smokejumpers and "hotshot" crews, the forests are dangerously choked with tinder-dry fuels.

The upshot is that the region is poised for another dangerous summer of potentially catastrophic wildfires.

Other problems abound as well. Overgrazing and logging have eliminated shade along many streams and riparian areas. That has raised water temperatures and muddied the forest's "blood system," reducing stream values as habitat for fish species.

Bob Messinger, a Boise Cascade Corp. spokesman, said the die-off is nature's way re-establishing equilibrium. By using insects, disease and fire, less hardy trees are being cleared away for more fire-, insect- and disease-resistant species.

The sobering aspect is the dramatic way nature has undertaken the business of eliminating weaker tree species, he said.

"We're talking about hundreds of thousands of acres, millions of acres, at one whack," said Messinger.

He advocated rapid harvesting of dead trees and the reestablishment of ponderosa pine in the region.

There was general agreement that at least a century will be needed to restore the East Side forests to health. Still, the character of that future forest remains to be decided.

Considerable research is needed, panelists agreed: Scientists still have much to learn about bio-diversity, long-term site productivity and the role of fire.

Ted Brown of Medical Springs emphasized that a new policy is needed to reduce the risks to small woodlot owners who want to use prescribed fires as a management tool.

Brown is an assistant professor of education and coordinates the liberal studies program at Eastern Oregon State College. He operates a 740-acre tree farm near Medical Springs.

Under current laws, a prescribed fire that gets away and burns onto federal or state land leaves a small landowner open to enormous liability, Brown said. As a consequence, tree farmers cannot use fire in the spring and fall to clear underbrush, low branches and dead material that could fuel a catastrophic summertime wildfire.

Rick George of La Grande said the healthy forest of the future should approximate what the forests were like when the first pioneers followed the Oregon Trail to the region in the early 1840s. George is a biologist for the Confederated Tribes.

When American Indians were the only inhabitants of the region, the East Side forests "produced a lot of products, a diversity of products that are no longer with us today," he said.

Johnson, on the other hand, envisioned an intensively managed patchwork mosaic covering the mountain landscape. Some of the trees should be hardwoods rather than conifers, he said.

The forest of the future will be managed for biological diversity, and won't be an unbroken vista of single-age, single-species trees, he predicted.

Johnson also said the forest of the future will not be a place where the biggest old-growth trees are harvested year after year with no thought to preserving their genetic characteristics. Instead, the best trees will be conserved for seed stock.

Umatilla NF
Displayed at

East Oregonian 5/4/91

Survival of forests dependent on revised management tools

By Merlyn Robinson
of the East Oregonian

HEPPNER — Management of the Blue Mountain ecosystem, forest health problems and the impact of forest resources on Morrow County were addressed by panelists at a public forum in Heppner this week.

The Blue Mountain Resources Institute sponsored the information-sharing session. The meeting, and others like it, was prompted in large part by reports of the declining health of the forest.

"Getting ahead of the situation on forest health involves a series of trade-offs," Forest Service resource manager Tom Quigley said.

Only long-term management techniques will cure unhealthy forests that have been affected by fire, insects, disease and drought, he said. Consequently, management techniques must not be gauged by the flow of products coming out of the forests.

"It's not the intention of management to force any species of wildlife into extinction, but there will be some shift in predominant species — some will benefit and others will be hurt," he said.

U.S. Forest Service biologist Craig Schmitt emphasized that forest fires that have been excluded from management plans in the past play a major role in cleansing forests. Fires modify stand compositions and sanitize forest stands to promote pest-resistant species, he said.

Catastrophic crown fires are caused by over-brushy conditions, which don't occur as often if fires started by Mother Nature are allowed to run their course. The use of fire and silvaculture practices together can promote a diverse landscape, a more stable environment and different age classes of tree species, he explained.

"The Blue Mountains have a big impact on the Morrow County economy — the timber industry has been the lifeline of this county," Morrow County Judge Louis Carlson told the group. "Past management practices have not been good, and coupled with five years of drought plus a number of other reasons, we now have a second-rate forest."

Direct employment from the forest includes jobs at Kinzua Corporation, the major south Morrow County employer, and the Heppner Ranger District, with a staff of more than 40.

There's now a growing potential for addition "forest revenues" through recreation and tourism, Carlson said.

Kinzua forester John Aaron said Kinzua Corporation is about 95 percent finished with timber salvage from areas affected by disease and insects.

Forest fires play a major role in cleansing forests.

"Our goals have been to capture the value of salvaged timber and reduce the potential for catastrophic fires," he said. "But we do have some concern about fire in areas that border Kinzua which have not been salvage-cut."

Kinzua plants about 185 thousand pine seedlings per year, Aaron said, in addition to spraying and silvaculture.

"The wildlife issue can't control everything," said Heppner Forest Service biologist Al Scott, who contended health issues are being driven by wildlife issues. There has to be some concessions and trade-offs, he added.

"The reintroduction of fire (to cleanse forests) will change some wildlife habitat. However, burning has proven to improve range forage and the quality of wildlife habitat," he said.

There needs to be more problem solving instead of business as usual, said Blue Mountain National Forest Alliance member Kevin Scribner of Walla Walla. While past forest plans have not been good, there's a lack of funding to carry out present silvaculture concepts.

Tim Keith of the Department of Forestry in Fossil agreed. Private land owners don't have the money to implement silvaculture methods and replant trees, he said. Cost-sharing needs to be addressed.

Representing the Confederated Tribes of the Umatilla Indian Reservation, Rick George said that the Indians measure forest problems with a different yardstick. The health of watershed areas and habitat for fish and wildlife is important from a "bill of rights" outlook as accorded to Indians under the 1885 treaty, he said. But the Indians are committed to the "long haul" for cooperation in dealing with forest improvements.

"We need to be able to control our own destiny," Heppner Forest Ranger Roger Williams said.

"Forest health is our top issue and we have to balance our needs for the short and long haul. We can manage and meet our future desired forest conditions, which have been structured in cooperation with a citizen group representing diverse interests. But federal directives can alter those plans."

How to restore sick area forests debated

By STEVEN BROWN
of the East Oregonian

PENDLETON — By now, an insect invasion in the Blue Mountains is old news. But the debate is just now reaching a low boil over the appropriate solution to the killer bark beetle.

Not all interest groups agree on the most appropriate response — some favor leaving large stands of dead and dying trees untouched while others favor salvage timber sales, which they claim would rid the forest of pests and keep an industry alive at the same time.

But everyone seems to agree that the corrective therapy likely will bring a painful cure.

The consequences and potential solutions to a decline in forest health of the Blue Mountains — Umatilla, Wallowa-Whitman and Malheur national forests — were discussed during a public forum Monday at the Forest Supervisor's office in Pendleton.

Panel members represented such groups as the lumber industry, Confederated Tribes, county government and environmentalists.

Forest Science

Vince Novotny, district silvaculturalist with the North Fork John Day Ranger District, blames the insect infestation on a less than normal precipitation.

He said aerial surveys show a two-or-three fold increase in the number of acres of dead and dying trees on the North Fork John Day district.

"The potential for insect damage has been high and is high," Novotny said.

Novotny said the forest service could use a number of tools to put the insects on the run. Among those tools are thinning trees, replanting infested areas, fire, spraying and salvaging older and insect infested trees — up to 100 percent salvage in some areas.

"There's a lot of concern and not just for timber volume," he said. "We are at risk of losing these stands with little hope of recovery."

Timber industry

Louisiana-Pacific, with sawmills in Pilot Rock and Walla Walla, wants assurances that adequate timber supplies will continue as the forest service maps out its "operation insect storm." "The forest industry has the same concerns that everybody else has relative to forest health," said Jerry McKague, Louisiana-Pacific forester. "But we can see very little advantage to letting nature take its course."

McKague said humans helped create the problem of insect infestations and should take an active role in returning the forests to good health.

He also said private landowners need assistance and advice on management practices from public agency researchers and

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Can science be applied to problem in time?

By STEVEN BROWN
of the East Oregonian

PENDLETON — Science has caught up with the spread of insect infestations of the three northeast Oregon national forests — but is it in time?

Greg Filip, a scientist with Oregon State University, said past forest management that included the exclusion of forests fires has contributed to the current state of poor forest health.

Insects are at odds with human uses of the forest. The spruce budworm eats away the needles of trees, and bark beetles bore into trees weakened by drought and the budworm.

Also at odds with forest health is Armillaria root disease, which weakens trees and makes them more susceptible to insect attack.

The weapons are fire, pesticides, thinning, and reseeding infested areas. But perhaps more effective at first will be a radical change in the way forest managers run the forest.

Charles Johnson, an ecologist with the National Forest Service, is among those who helped complete the Blue Mountains Forest Health Report, which now has reached the public with its strategies and proposed recommendations for turning the tide of the insect invasion.

Fire, insects, diseases and dead and dying trees are all part of a healthy forest. Insects are only second behind wildfires in causing visible and dramatic losses of conifer trees — sometimes killing substantial numbers of trees in an entire drainage, according to the report.

Johnson said forest managers must have a change in attitude and philosophy to accommodate an "ecosystem method of management." That shift in emphasis from managing timber stands to managing a landscape, he said.

Strategies and recommendations outlined in the forest health report include:

- Pesticides as a short term solution, but controversy over the method has required that planners seek other viable and equally helpful attacks.
- Pre-commercial thinning in areas susceptible to infestation will help improve forest health by opening sun light to smaller trees and reducing the competition for water.
- Fire suppression is an unnatural factor health. Low intensity burns could remove the threat of wildfire, decrease insect populations and revitalize vegetation used by wildlife.

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other experts in the forest-health profession.

Environmentalists

Shirley Muse, a representative of the National Audubon Society and other environmental and conservation groups, said she would prefer leaving stands of dead and dying trees in place for the sake of wildlife.

"Not only is our forest in trouble because of the timber and plant life," Muse said, "but the animals and the wildlife depend on that forest and that's where I feel very strongly about this forest-health study — they are in poor shape."

Northeastern Oregon does not have the spotted-owl conflict that has shaken the timber industry in Western Oregon, but Muse said local forest planners must address the decline of animal-health here before forest dwellers reach the brink of extinction.

"We need to practice restoration forestry," Muse said. "If we can avoid pushing them right to the edge then we won't always have to look at them as an endanger species and treat them as an emergency-room patient."

County government

Emile Holeman, Umatilla County commissioner, said leaving an estimated 450 million board feet of timber to rot in the national forests is a waste when it could be transformed into jobs.

"It's quite obvious that the ecological health of the Blue Mountains are essential to all Umatilla County residents," Holeman said. Blue Mountain Forest Products, Inc., in Rieth, is among the companies that would be positioned to reap the harvest of dead and dying trees. The business represents a substantial part of the local economy with a gross payroll of more than $2 million, Holeman said.

Holeman also testified that the forest service has estimated the insect damage on the southern portion of the Umatilla National Forest within the next five years to be 600-800 million board feet.

"The amount of timber planned for harvested is about 25 percent of the total," Holeman said. "The remainder is for elk habitat.

"The forest service proposal to leave dead timber standing as thermal cover for elk is a short sighted idea. Those trees will rot, fall down in six to seven years and no one has proven to our satisfaction that elk need thermal cover."

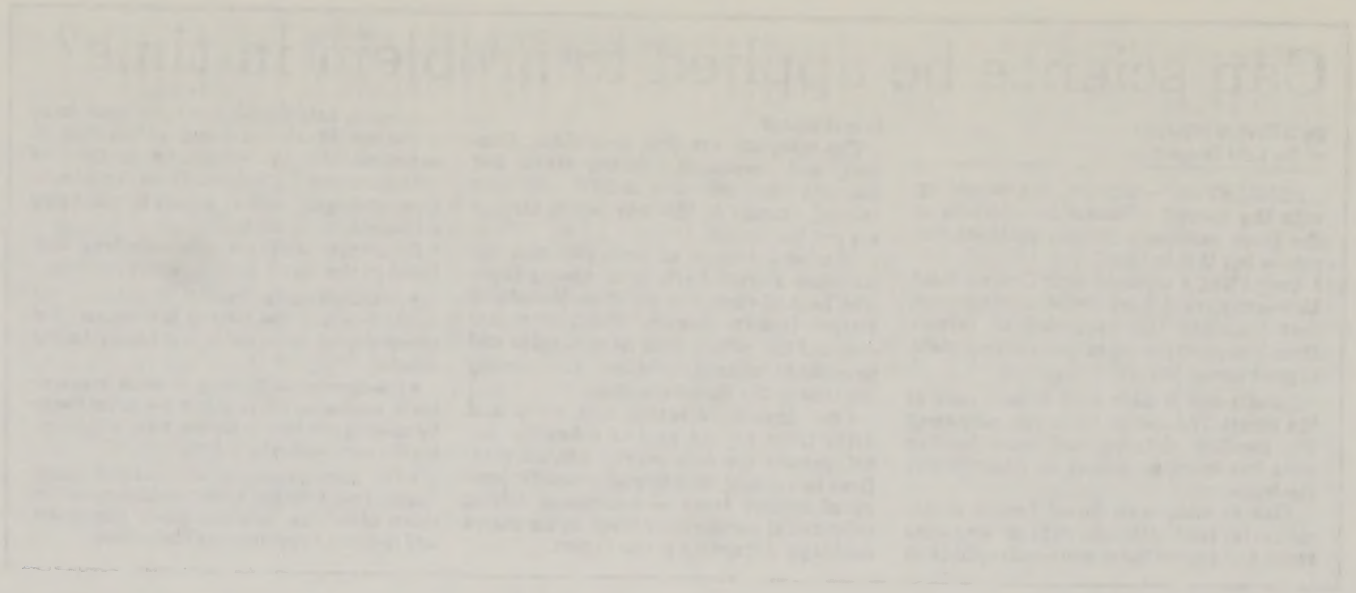
Tribal concerns

The rights of the Indian reservation in regard to utilization of fish, wildlife and forest resources are threatened by the decline in forest health, said Rick George of the Confederated Tribes on the Umatilla Indian Reservation.

"Forest health is very difficult to measure," George said. "But certainly the health of the Blue Mountain forests in 1855" is one measure of forest health.

Salmon in particular are at the center of a regional debate heading now toward the possible listing of several Columbia and Snake River salmon as endangered species.

"Certainly, the documentable impacts to those fish occur down stream — dams are a major culprit," George said. "But we have very little information about the productivity of fish on our forests and little information about the capability of the habitat we have in the Blue Mountains."



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